NEW EQUIPMENT DIGEST

A Penton Publication

June, 1961

Volume 26 — Number 6

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CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 8 and 104

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

SOLVENT DEGREASER
cleans 100-125 lb of parts hourly

Principle of vaporization and condensation of Perchlor perchlorethylene solvent is utilized by the Series D-2 Speedegreaser on greasy parts or subassemblies suspended in a metal basket. Capacity is 100 to 125 lb of metal parts per hour in the nonvolatile solvent. Unit can also be used for dip or immersion processing of parts in the solvent fluid before the vapor treatment. Vapor is formed by heating 4 gal of the solvent in the 18-in. diameter drum by means of a 2500-w wrap-on electric heater operating on 115 or 230 v ac. Control is by a Robertshaw snap-action thermostat. Price is $94.50. • **Acra Electric Corp.**, 9901 Pacific Ave., Franklin Park, Ill.

▲ For more details circle **NED-1 F1** on enclosed inquiry slip ▲

DIAL INDICATOR
graduated to 0.000050 in.

New motion transfer design of this Micro-Sure dial indicator enables it to provide high magnification (0.000050 - in. graduations) over the full AGD range with up to four times the calibration and repeat accuracy of conventional indicators. Stem bushing wear does not affect accuracy. Because mechanism follows the plunger motion, instead of being driven by it, indicator is protected against shock in either direction. Critical surfaces are micro-finished to minimize friction. • **Federal Products Corp.**, 1144 Eddy St., Providence 1, Rhode Island.

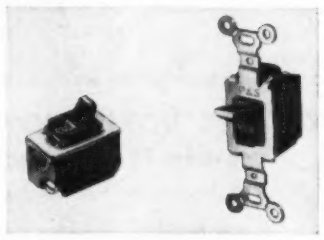
▲ For more details circle **NED-2 F1** on enclosed inquiry slip ▲

PROTECTIVE FILM
for use on electrical equipment

Continuous protective film from 1 to 8 microns thick is formed by Lectra-Shield coating which renders treated surfaces highly water repellent. It affords protection against moisture and oxygen, the primary causes of electrical deterioration, when used on totally enclosed motors, insulators, electronic gear, electrical equipment cabinets, and painted or plated surfaces. A nonconductor that will not arc, the film prevents deterioration of gaskets, seals, and covers, and prevents entrance of harmful moisture into internal mechanisms. Effective life ranges from less than 1 year to over 5 years, depending upon conditions. • **Corrosion Reaction Consultants, Inc.**, 116 Chestnut St., Philadelphia 6, Pa.

▲ For more details circle **NED-3 F1** on enclosed inquiry slip ▲

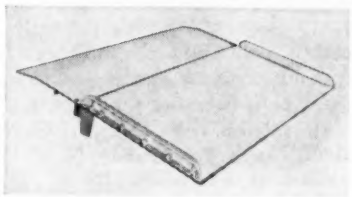
20-AMP SWITCHES
have screw or pressure terminals



Shallow, compact, and totally enclosed bodies which afford ample wiring room are featured on this line of 20-amp, 120/277-v ac switches. Quiet in operation, they have binding screw or pressure terminals, and are available in strap and Despard interchangeable types. Positive control of the contact arm in both directions is provided. Single and double-pole, three and four-way types are offered. • **Pass & Seymour, Inc.**, Solvay Station, Syracuse 9, N. Y.

▲ For more details circle **NED-4 F1** on enclosed inquiry slip ▲

DOCKBOARDS & RAMPS
used separately or combined



Freight handling problems caused by extreme height differences between dock and truck bed or railroad car are solved by use of medium duty aluminum ramps, available in 48 sizes. Usable with Super Strength aluminum dockboards, the pin-hinged, self-supporting assemblies have rated capacities from 5000 to 9000 lb, and may be quickly separated and adjusted by one man. Optional features include fork lift brackets, adjustable holding bars, and a permanent abrasive nonskid surface. • **F. H. Langsenkamp Co.**, 229 E. South St., Indianapolis 25, Ind.

▲ For more details circle **NED-5 F1** on enclosed inquiry slip ▲

AIR GUN
used by flexing the nozzle

Made from grease resistant neoprene and machined brass rod, the clogproof Heco A-10 air gun cannot break or get out of adjustment. The nozzle is flexed when an air stream is desired and, when tossed aside, the air shuts off automatically. Tip is hardened and plated steel to prevent damage from dropping or dragging. Gun fits ¼-in. iron pipe threads. • **Heckethorn Mfg. & Supply Co.**, Dept. N, Dyersburg, Tenn.

▲ For more details circle **NED-6 F1** on enclosed inquiry slip ▲

PORTABLE TOOL BALANCERS
load capacities of 0-2 and 0-4 lb

Screwdrivers, nut setters, drills, and other small portable power tools can be suspended on production and assembly lines by A Series of tool balancers. The 1-lb 4-oz units are available in load capacities of 0-2 and 0-4 lb. Balancers have a 4-in. diameter and a 1⅛-in. width. Suspension clevis is adjustable for straight line cable action. • **Aero-Motive Mfg. Co.**, 1803 Alcott St., Kalamazoo, Mich.

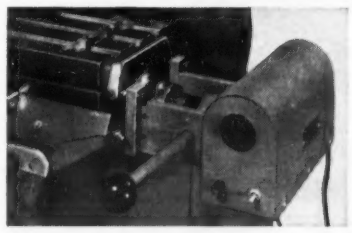
▲ For more details circle **NED-7 F1** on enclosed inquiry slip ▲

AIR-COOLED ENGINE
high displacement 5-hp model

Higher piston displacement is featured by this Red Seal 5-hp AU-12 air-cooled gasoline engine for scooters and similar mobile equipment applications. The heavy-duty four-stroke unit features double-capacity connecting rod of forged aluminum, die-cast cylinder head with large cooling fins, forged steel crankshaft, and tapered tin-plated controlled-expansion piston. Carburetor is a horizontal float-feed automotive type. Oversize intake and exhaust ports are suited to engine's higher output, and oil sump has been enlarged to hold nearly 1 qt of oil. • **Continental Motors Corp.**, Air Cooled Industrial Engine Div., 12800 Kercheval Ave., Detroit 15, Mich.

▲ For more details circle **NED-8 F1** on enclosed inquiry slip ▲

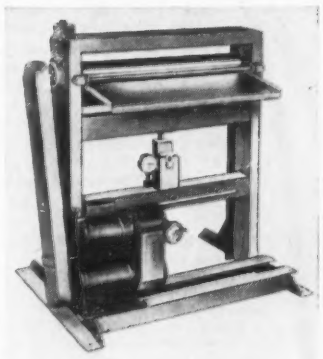
POWER ATTACHMENT
for hand operated machines



This power attachment with slip clutch can be attached to hand-operated rotary tables, vertical mills, grinders, and many special machines that require power feeds. It protects motor drive and allows machine to drive up to a stop. Limit switch can be added to reverse the motor. Attachment reduces human error when machining parts that require high accuracy. Operator is free to deburr or do other work while machine is cutting. Provision is made for quick hand operation when power is not needed. • **M & M Tool & Mfg. Co.**, 1124 E. Third St., Dayton 2, Ohio.

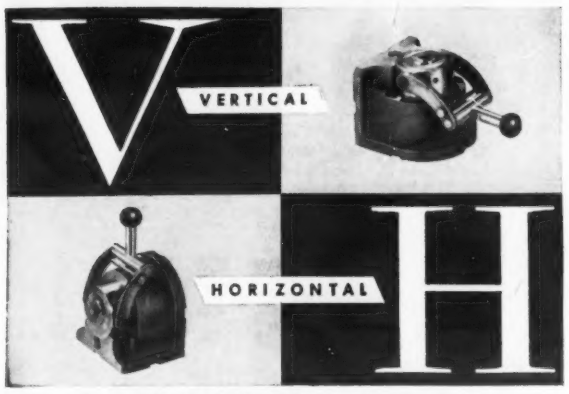
▲ For more details circle **NED-9 F1** on enclosed inquiry slip ▲

PERFORATING MACHINES
for plastic, paper, rubber, leather



Film and sheet materials can be made porous, breathable, and easier to laminate or combine by processing them through this production perforating machine. Plastic film, paper, cloth, rubber, foil, leather, cardboard, and coated products can be perforated in various needle pointed pin patterns. Roll widths are 33, 48, and 60 in. Hardened alloy steel pins in the perforating roll are replaceable if worn or broken. Standard machine with variable speed drive makes holes on a square pattern on ⅛, 3/16, or ¼-in. centers. Wider machines with special pin patterns and larger diameter holes are made to order. • **Robert A. Main & Sons, Inc.**, 465 W. Main St., Wyckoff, N. J.

▲ For more details circle **NED-10 F1** on enclosed inquiry slip ▲



Another Model Holding Fixture by ZAGAR

Simplified tooling at reduced cost keynotes Zagar fixtures for drilling, grinding, milling and other finishing operations. The Zagar V-H will:

- SET UP QUICK
- LOAD EASILY
- ELIMINATE NEED OF ANGLE PLATE

Get more information in Reference Sheet 14-N-6.

ZAGAR, INCORPORATED

Zagar 23880 LAKELAND BLVD. CLEVELAND 23, OHIO

TOOLS FOR INDUSTRY and SPECIAL MACHINERY

▲ For more details circle NED-11 F1 on enclosed inquiry slip ▲

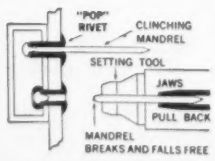
ONE OF THE ONE DOZEN REASONS WHY UNITED "POP"® RIVETS run rings around the rest

HIGH GRIP STRENGTH

"POP" Rivets exert a "squeeze" between parts up to 600 pounds without distortion or stripping. Ideal for all applications that call for high grip strength plus fast, economical setting. And you can be sure of high fastening quality with uniform clinching action, because grip strength depends on carefully controlled breaking point of mandrel . . . **not** on operator's strength or skill. To improve the quality, appearance and sales appeal of your products **and** reduce costs at the same time, be sure to investigate **all 12** reasons why Genuine "POP" Rivets run rings around the rest. Write today for complete information and for the name of your local "POP" Distributor.

HERE'S HOW THEY WORK

"POP" Rivets are inserted and set from the same side: (1) Rivet is inserted in the work. (2) Jaws of the easy-to-use setting tool grasp the mandrel. (3) Tool is operated. Jaws pull back. Rivet is set. Mandrel breaks and falls free.



UNITED "POP" RIVETS

SHELTON DIVISION
United Shoe Machinery Corp.
1628 River Road
SHELTON, CONNECTICUT
U.S.A.

Genuine "POP" Rivets Are Available Through a Large Network of Distributors Throughout the Country.

▲ For more details circle NED-12 F1 on enclosed inquiry slip ▲

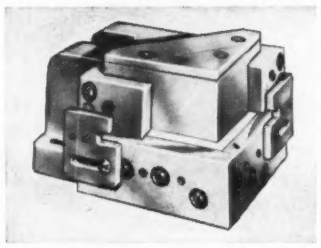
Off-the-job Safety

How your company can minimize off-the-job accidents and their shocking toll of wasted lives and dollars is the subject of a practical guidebook entitled "The Challenge to Management of Off-the-Job Accidents." The experience of many companies with the TOTAL SAFETY PLAN shows that industry can reduce these accidents—by as much as 30 per cent. The average off-the-job accident costs employers $72.

Most men in industry take safe in-plant working conditions for granted. How to carry this safety consciousness out of the plant when they leave for home is a problem faced by many alert manufacturers. The above 16-page illustrated bulletin is yours for the asking. It's published by the National Safety Council, 425 N. Michigan Ave., Chicago 11, Ill. You can write to them for a free copy, or, if you circle NED-1200 on the self-mailing inquiry slip in this issue, we'll be glad to forward your request to the National Safety Council.

A. N. Gregg
EDITOR

CORNER NOTCHING UNIT
no-cap feature increases versatility



Versatility of this corner notching unit is increased 100 per cent by the cast-to-shape tool steel punch that eliminates the need for a cap surrounding the punch and insures burr-free notching. Unit can be used for V-notching or cropping of angles as well as V and corner notching of flat sheets. Both right and left hand models are carried in regular and heavy duty series with respective shut-heights of 5½ and 8⅜ in. and die heights of 2 19/32 and 3½ in. Side gages as shown, or gage plate with slide gages and built-in scales for quick set-up, are available on all models. • **Tool Products Corp.**, 377 Old Falls Blvd., North Tonawanda, N. Y.

▲ For more details circle NED-13 F1 on enclosed inquiry slip ▲

Electrical & Electronic Components

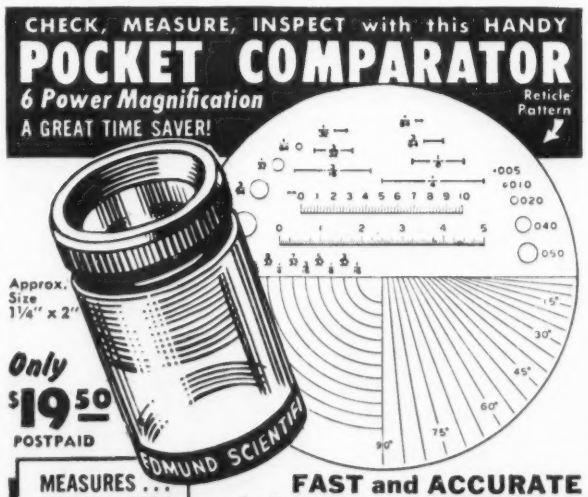
In over 100 pages, the Components Handbook provides useful information on electromechanical and electronic switching devices and components. It is divided into six sections and covers relay and switch terminology and theory, unique switching and control circuits, plus reference, application, and technical data. Available for $1 for writing **North Electric Co.**, Electronetics Div., Galion, Ohio.

▲ For more details circle NED-14 F1 on enclosed inquiry slip ▲

CHECK, MEASURE, INSPECT with this HANDY POCKET COMPARATOR

6 Power Magnification

A GREAT TIME SAVER!



Only $19.50 POSTPAID

MEASURES . . . ANGLES • RADII CIRCLES LINEAR DIMENSIONS in both decimal inches and mms.

FAST and ACCURATE On Small Parts . . . Small Dimensions

Fine, imported measuring magnifier with real etched glass reticle—for on-the-spot checks of linear dimensions, angles, radii, diameters. Clear plastic cell admits light to object viewed. Focusing adjustment. Reticle easily removed for use as high-power magnifier. Instrument comes in protective leather case. We guarantee complete satisfaction or your money back. Order Stock No. 30,061-AE ..... $19.50 Postpaid

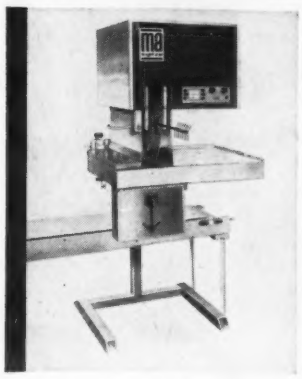
FREE! Giant 144-Page CATALOG "AE"

OVER 1,000 SCIENCE-MATH-OPTICAL ITEMS for industry . . . Many on-the-job helps . . . quality control aids! 144 pages—hundreds of illustrations. Many war surplus bargains! Imported instruments! Lenses, Prisms, Magnifiers, Telescopes, Satellite Scopes, Microscopes, Binoculars, etc. Optics for industry, research labs, experimenters, hobbyists, math learning aids. Write for FREE Catalog AE.

EDMUND SCIENTIFIC CO., Barrington, N. J.

▲ For more details circle NED-15 F1 on enclosed inquiry slip ▲

A new low-cost automated polyethylene packaging system



FUNCTION: Completely packages products in polyethylene film—in one operation—in your plant. Produces inexpensive loose or shrink-fit polyethylene packages around regular, odd-shaped or out-sized products of all types. **ADVANTAGES:** Uses polyethylene roll stock. Saves up to 50% on material costs over ready-made bags and other packaging methods and materials. • Boosts in-plant packaging efficiency, produces up to 30 packages per minute at reduced labor costs. • Provides a self-selling plain or printed package that protects, displays, reduces damages caused by excessive handling. • Simple to Operate—Easy to Maintain. **COST:** Complete MA Systems normally range from $2000 to $4000. **FREE OFFER:** Let the MA System test-package your product in durable, transparent polyethylene. Send us a sample, or write for complete details on this revolutionary packaging system to either: Mehl Manufacturing Company, 2057 Reading Road, Cincinnati 2, Ohio—or—Kordite Company, Macedon, New York.

ma SYSTEM

▲ For more details circle NED-16 F1 on enclosed inquiry slip ▲

Browning MVP MULTIPLE GROOVE VARIABLE SPEED DRIVES

WIDE APPLICATION AT LOW COST

For reliable and convenient speed variations in drives up to 125 hp, investigate Browning's new MVP line.

- ★ 360° adjustment; easy to unlock and lock
- ★ patented locking ring assembly; will not work loose
- ★ concentric grooves, uniform pitch diameters
- ★ ground barrels for precision fit
- ★ precision bored center flanges; chatter-free
- ★ adjusting rings of *unbreakable malleable*
- ★ infinite speed adjustment
- ★ Browning's split taper bushing; also fixed bore types

Ask your Browning Distributor for new catalog MVP-101. Or write **Browning Manufacturing Company, Maysville, Kentucky.**

Browning . . . . OUR 75th YEAR

FOR PROMPT DEPENDABLE SERVICE CONSULT YOUR BROWNING DISTRIBUTOR

▲ For more details circle NED-17 F1 on enclosed inquiry slip ▲

Simplify Wire Assembly with a Kingsley Wire-Marking Machine

Now you can mark each wire or piece of plastic tubing with its own individual circuit number . . . quickly . . . economically, right in your own plant!

You reduce wire inventories because you need only one color of wire for as many circuits as necessary.

Simplify your assembly methods and speed production with the same machine that has proved so successful in the aircraft and missile industries.

For Complete Details, Write or Wire

KINGSLEY MACHINE CO.
850 Cahuenga Blvd., Hollywood 38, California

▲ For more details circle NED-18 F1 on enclosed inquiry slip ▲

LOOK HOW 1

dependable, versatile American Blower Vac

CUTS PLANT CLEANUP COSTS

...saves time, labor, money

Highest product quality for lasting trouble-free performance. Put dependable, versatile American Floor equipment to work in your plant—and watch cleanup costs drop! Send for literature and technical data sheets on complete line today.

AMERICAN® FLOOR MACHINE CO. Established 1903
Division of AMERICAN-LINCOLN CORPORATION
Toledo 3, Ohio

▲ For more details circle NED-19 F1 on enclosed inquiry slip ▲

30 DAY FREE TRIAL

Queen City

HEAVY DUTY GRINDERS • BUFFERS DISC GRINDERS

• BENCH • PEDESTAL

. . . cost up to 1/3 less . . . includes wheels

We know what goes into these Grinders and Buffers! That's why we can make this offer.

Point for point—you just can't beat QUEEN CITY Heavy Duty Disc Grinders and Buffers. Built to stand up under hardest use . . . heavy duty motors deliver full horsepower. Wheels, guards, switches, cords, eyeshields are of highest quality . . . selected to deliver long, trouble-free service.

Choose from a complete line of floor or bench types . . . in sizes from 1/3 to 10 H.P. and buy them for 20 to 30% under competing makes. Try them for 30 days on money-back guarantee!

QUEEN CITY MACHINE TOOL CO.

write for FREE CATALOG TODAY!
3909 KELLOG AVE., Cincinnati 26, Ohio

"Known for Quality for Over 50 Years"

▲ For more details circle NED-20 F1 on enclosed inquiry slip ▲

SAFE, RELIABLE POSITIVE CONTROL

Convenience, positive control and protection for the operator are provided by the pistol-grip, push-button control station of the Coffing Quik-Lift electric hoist.

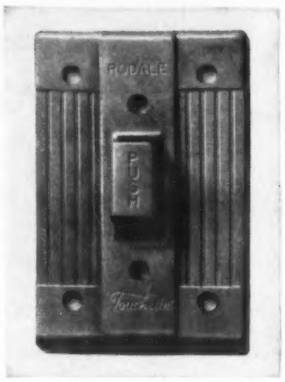
Ask your distributor about the twenty JF models with capacities ranging from ¼ to 2 tons or write for Bulletin ADH-65N.

COFFING HOISTS

DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

▲ For more details circle NED-21 F1 on enclosed inquiry slip ▲

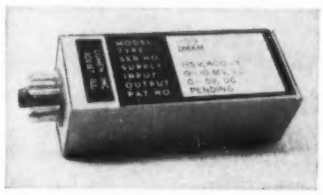
SWITCH COVER for outdoor, industrial use



Neoprene used in this weatherproof switch cover resists live steam, extreme cold, grease, oil, and hot water. It can be used with Rodale Touchette or any touch type switch in outdoor and various industrial applications. It fits a standard wall box or FS mounting. • **Rodale Mfg. Co.**, Emmaus, Pa.

▲ For more details circle NED-22 F1 on enclosed inquiry slip ▲

DC INSTRUMENT AMPLIFIER for telemetering temperatures

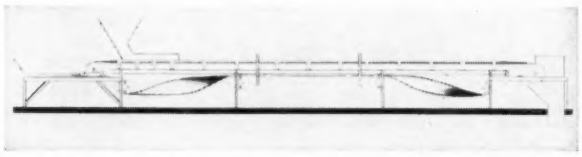


Operating on an input signal of less than 10 millivolts dc, Model 1100 magnetic amplifier delivers an output voltage of up to 5 v dc. It requires 115-v excitation and is a straight-line instrument. Though developed for use in telemetry systems, it has other applications since it accepts low level direct current signals from such pickups as thermocouples, strain gages, or photocells. Price is $150. • **Lumen, Inc.**, Box 905, Joliet, Ill.

▲ For more details circle NED-23 F1 on enclosed inquiry slip ▲

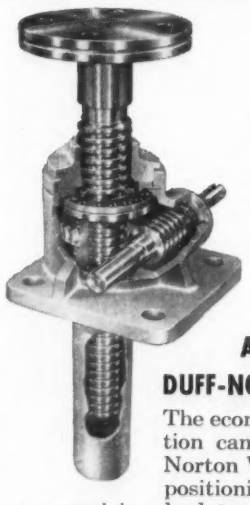
TURNOVER CONVEYOR BELT prevents build-up of tacky materials

The "turnover" conveyor belt system shown in drawing allows belt to twist itself automatically, reversing top and bottom surfaces after delivering and before



accepting a new load. Turnover action positions the clean side of the belt on top of the return idlers, preventing build-up of tacky materials on idlers or pulleys. Twisting is accomplished by two twist pulleys at each end of the belt flight. Each set of pulleys turns the belt 180 degrees, thus the belt's thick carrying cover is always positioned to receive the load. System can be applied to any conventional conveyor system now in operation without altering conveyor framework. Wet material can be handled at low temperatures with no danger of belt freezing to pulleys and idlers. • **B. F. Goodrich Industrial Products Co.**, 500 S. Main St., Akron 18, Ohio.

▲ For more details circle NED-24 F1 on enclosed inquiry slip ▲



New Economy for Machinery Designers

A STANDARD LINE OF DUFF-NORTON WORM GEAR JACKS

The economies of standardized production can be realized by use of Duff-Norton Worm Gear Jacks for accurate positioning of loads weighing as much as several hundred tons. This standard line of eight jacks ranges from 2 to 100 tons in capacity. When jacks are used in an arrangement, added economy can be realized in raising unevenly distributed loads, since all models now have a uniform raise which permits jacks of varying capacities to operate in unison. Worm gear jacks are furnished with standard raises from 6 to 24 inches. Special raises can also be furnished. Write for Bulletin AD-66-N.

DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

▲ For more details circle NED-25 F1 on enclosed inquiry slip ▲

AURAND

CLEANING TOOLS
ELECTRIC OR PNEUMATIC

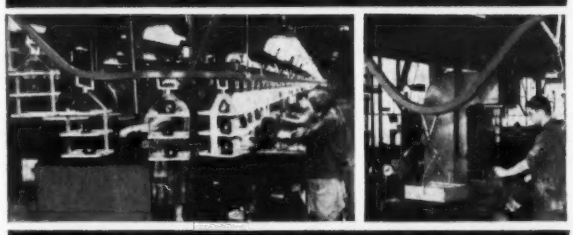
Zip away SCALE RUST PAINT

Powerful rotary chipping action completely removes stubborn accumulations from iron, steel, brick, concrete, etc. with less effort. Adjustable depth shoe for controlling depth of cut. Renewable cutter heads. Two sizes in both electric and pneumatic models. Lightweight.

Write for the money-saving facts.
AURAND MFG & EQUIP. CO.
1322 Ellis St. • Cincinnati 23, Ohio
Canadian Distributor: E. B. Peerless, LTD., 5934 Fraser St., Vancouver 15, B. C.

▲ For more details circle NED-26 F1 on enclosed inquiry slip ▲

R-W "Zig-Zag" CONTINUOUS POWER CONVEYORS



WILL SAVE YOU TIME AND DOLLARS

"Zig-Zag" Conveyors offer a time-proven method of lowering overall manufacturing costs. Adaptable for small, special purpose conveyors or huge plant-wide systems that convey components and products through all production processes. Check these important "Zig-Zag" features . . .

- *VERSATILE* . . . efficiently transports unit loads up to 125 lbs. at speeds of one inch to 100 feet per minute . . . offers a proven multi-speed drive unit.
- *FLEXIBLE* . . . may be installed to move up, down, in, out and around . . . the most flexible conveyor in its class.
- *RUGGED* . . . furnished in one, top-quality grade . . . chain, track, power units and accessories are "designed for each other," for years of dependable service and trouble-free operation.
- *RE-USABLE* . . . may be changed, expanded, altered or relocated with almost 100% reusability—will meet your needs now and for years to come.
- *STOCKED* . . . in most metropolitan areas for immediate shipment of all "Zig-Zag" components.

WRITE TODAY FOR "ZIG-ZAG" CATALOG

RICHARDS-WILCOX MFG. CO.

435 W. THIRD STREET • AURORA, ILLINOIS • Branches in Principal Cities

▲ For more details circle NED-27 F1 on enclosed inquiry slip ▲

AGAIN . . . Coffing Brings You a New Line of Hoists

The new Safety Pull Aluminum Ratchet and Pawl Lever Hoist is easy to operate —requires minimum handle pull. It may be operated from either side, and the design prevents freezing a load.

Safety has been built into the hoist. It will not ratchet under load if handle is released nor will it free chain. Controls are protected from inadvertent shifting. The bottom stop eliminates any hazard from the handle being released unintentionally. The exclusive safety handle bends to indicate overload.

Strength without excess weight in the new hoist is achieved by a special aluminum alloy which is used in the body and handle.

Available in six models with capacities from ¾ to 6 tons. Ask your distributor or write for Bulletin ADH-86N.

COFFING HOISTS

DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

▲ For more details circle NED-28 F1 on enclosed inquiry slip ▲

CHROMALOX
SNAP-ON DRUM HEATERS

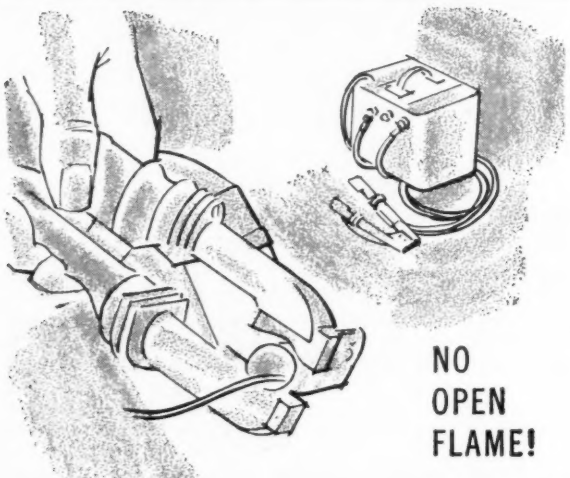
Just snap on and plug in . . . for fast, uniform heating. 5-gallon size temperature ratings from 140° to 230°F . . . 300 to 1,000 watts. 55-gallon size temperature ratings from 140° to 190°F . . . 750 to 1,500 watts.

Resistance wires are double covered with braided Fiberglass and woven into a flexible mesh. Available with silicone rubber coating or impregnated with Teflon for added protection against abrasion and chemical attack.

Write for prices. Tell us which size and what is to be heated. Edwin L. Wiegand Company, 7509 Thomas Boulevard, Pittsburgh 8, Pennsylvania. 91848

CHROMALOX *Electric Heat*
INDUSTRIAL • COMMERCIAL • RESIDENTIAL

For more details circle **NED-29 F1** on enclosed inquiry slip



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RESISTANCE SOLDERING SETS

Instant resistance heat concentrated at point of contact joins parts in seconds. *Work piece heats first*, melts solder, positively prevents cold-flow joints. No pre-heating — no burning of nearby parts. . . . Heat is controlled by thumb-switch. Low voltage and completely insulated parts eliminate accidental shock . . . Compact, rugged units draw current only when in use — cut power costs. Universal application: production, maintenance or repair, in electrical, metalworking, plumbing, heating, air-conditioning and general industry . . . Proved in hundreds of plants to increase output, cut costs, insure better soldering.

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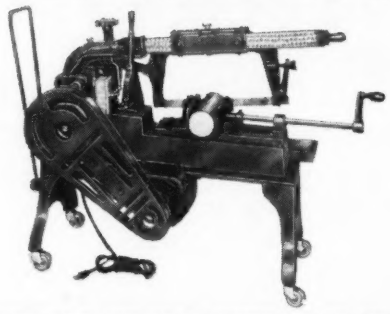

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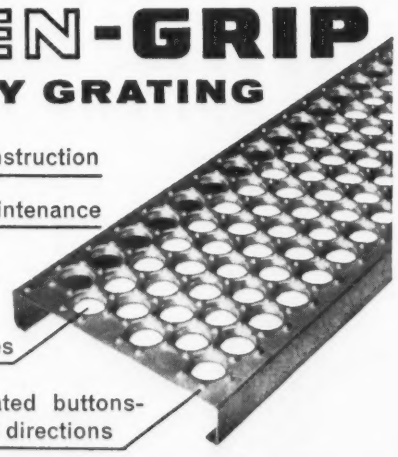
SAFETY GRATING



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Self-cleaning debossed holes
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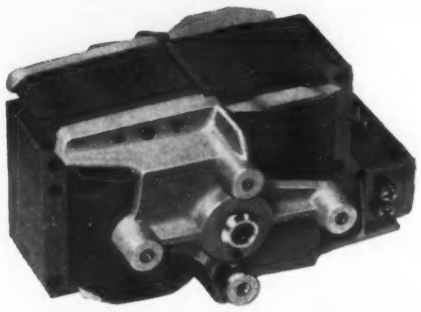
WHERE CAN YOU USE THIS VIBRATORY MOTOR?



Delivers 14,400 strokes per minute with amplitude up to ¼". Rated at four amps full load at 115 vac, VM-40 is the largest of three, standard Syncro motors widely used in reciprocating sanders and jigsaws. Overall dimensions are 2½ x 3½ x 4½. Armature has a multiple torsion bar pivot bearing with no wear surfaces. A 16-billion cycle life test shows no appreciable wear. Excellent for continuous duty feeders, sorters, mixers, separators, packagers. Why not try VM-40 on your pet project? Bulletin available.

SYNCRO CORPORATION OXFORD, MICHIGAN

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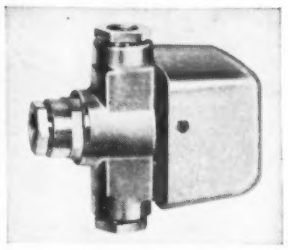
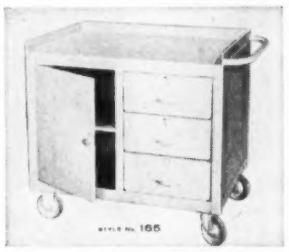
MOTOR VALVES
control hot or chilled water flow



Soldering or flaring of tubing is not required to install 436A Series two and three-way motor valves. The low cost units control the flow of hot or chilled water in fan coil units and other applications. They employ a motor and a valve disc, the latter eliminating the need for screens. The quiet operating, forged brass valves will operate in any position with a single contact thermostat. Valve pipe size is ⅝-in. OD tubing, temperature limit is 200° F, and maximum system pressure is 125 psi. Standard electrical rating is 110 v, 60 cycles ac; 220 v and 24 v, 60 cycles ac are optional. Cord length up to 96 in. is furnished. • **Erie Mfg. Co.**, 4000 S. 13th St., Milwaukee 21, Wis.

For more details circle **NED-38 F1** on enclosed inquiry slip

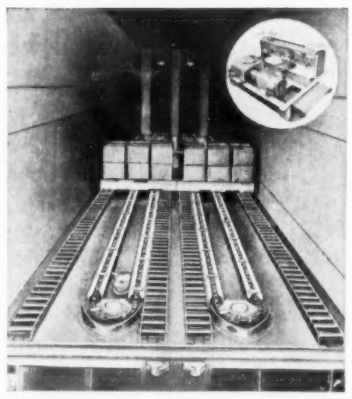
MOVEABLE MAINTENANCE BENCH
arc welded unit has larger casters



Now completely arc welded, improved maintenance or die-setter's bench is mounted on large 5-in. wheels for greater load capacity and mobility. The heavy-duty, 36 x 34 x 24-in. bench is fabricated with three steel drawers and a cabinet with an adjustable center shelf. Door's new knob lock and cabinet drawer locks are keyed alike. • **Pollard Brothers Mfg. Co.**, 5504 Northwest Highway, Chicago 30, Ill.

For more details circle **NED-39 F1** on enclosed inquiry slip

TRAILER TRUCK UNLOADER
pushes palletized load onto dock



Activated by a motor drive shown in the inset, the Power Pusher conveyor for unloading trailer trucks pushes an entire palletized load onto the dock at a predetermined rate. A pusher bar across the back of the truck (not shown) moves the load. On the dock, a conveyor of the same width and length as the truck conveyor completes the unloading. • **Alvey-Ferguson Co.**, Oakley Station, Cincinnati 9, Ohio.

For more details circle **NED-40 F1** on enclosed inquiry slip

The case of the ladder that

STOOD UP IN COURT

Ladder accidents are responsible for more labor loss and LIABILITY claims than any other industrial hazard . . . eliminate *both* with Safe-Hi LADDER SAFETY EQUIPMENT.

Safe-Hi Ladder shoes Virtually indestructable fibre-impregnated neoprene grips hold *any* ladder safely on wet or dry surface. Special spikes for snow or ice. U/L approved for all floor surfaces.

Safe-Hi Wall grip Prevents ladder from slipping sideways on any smooth wall or surface.

Safe-Hi Pole grip Stabilizes the ladder when it is leaning against a round pole or the corner of a building.

Safe-Hi Ladder lash Secures top of ladder to post or beam.

rose manufacturing co.
2700 W. Barberry Place
Denver 4, Colo.

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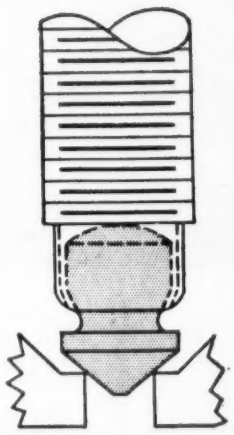
NEW FOXBORO "FLOATING CONE" DESIGN ELIMINATES VALVE LEAKAGE



You can't gall or score the new Foxboro ¼-inch hand valve. Exclusive "floating cone" plug design makes it impossible to rotate valve plug once it has been firmly seated. Extra turns of the valve handle move stem only—plug remains stationary. Chance of galling and scoring is eliminated — a leak-tight closure assured every time. For general purpose liquid or gas service—including steam. 3000 psi at 100°F; 2500 psi at 450°F. For fast service, order directly from your nearby Foxboro Field Engineer. Or write for Bulletin 7-14. The Foxboro Company, 666 Neponset Avenue, Foxboro, Massachusetts.

FOXBORO REG. U. S. PAT. OFF.

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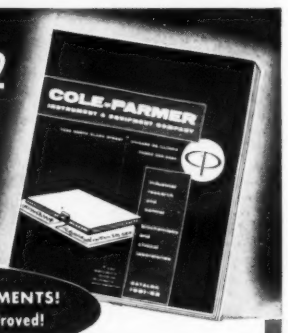
free! 1961-62 COLE-PARMER Scientific Equipment Catalog!



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A Fast, Low Cost Way to:

COUNTERWEIGHT.... ADD WEIGHT.... PREVENT REBOUND.... ABSORB SHOCK....

IN A WIDE RANGE OF PRODUCTS

Just flow metal balls or free-pouring metal powder where needed into cavities! This can be done manually or automatically. Weight of the balls range up to 300 pounds plus per cu. ft. Dozens of applications; new ones will suggest themselves. Let us help you with *your* problems. Send your inquiry to us!

BALLAST DIVISION
THE NATIONAL METAL ABRASIVE CO.
3560 Norton Rd., Cleveland 11, Ohio

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new spray-on, soothing

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ADAMS AFTERCOOLERS provide virtually complete condensation of tool-damaging oil, moisture and dirt from pipeline gases — by efficient cooling to within 10°F. of the cooling water. ADAMS CYCLONE SEPARATORS then remove this condensate at a constant separation factor over all load ranges.

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Investigate this low-cost method of protecting your pneumatic tools — write today for Bulletin 715! R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, New York.

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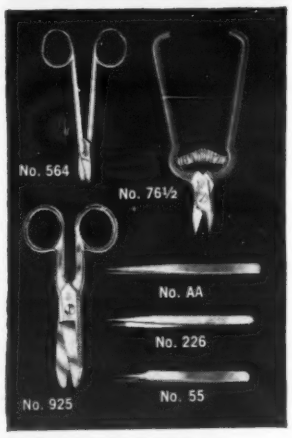

4" Fine Wire Cutter with ⅝" Cut
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Blades curved to left ..... No. 554
Also 4¼" double chrome over nickel style with 1" cut ..... No. IS4¼SS

5" Wire Cutter with 1¾" Cut
Full nickel plated standard, No. 925
Above with 2 wire stripping notches ..... No. 925C

6½" Filament Snip with ⅝" Cut
Maximum leverage ..... No. 76½

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Stainless steel with plain points ..... No. AA
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4¾" Tweezers
Chrome plated surgical steel with serrated points ..... No. 226
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NOW EQUIPPED WITH

Super Safety Guards at no extra cost

■ Heavy-duty fans effectively cool large areas. Available with 24" or 30" blades in pedestal, bench, wall or ceiling models. 2-speed capacitor-type motors, totally enclosed.

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For floor, table or wall-mounted use. 16½" blade. Super Safety Guard supplied at no extra cost.

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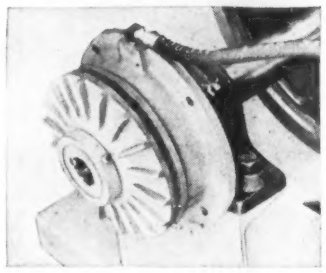
LOS ANGELES, 7755 Paramount Place, Pico Rivera, RAymond 3-3623

For catalog and prices, write
HUNTER DIVISION—ROBBINS & MYERS, INC.
2500-N Frisco, Memphis 14, Tenn.

For more details circle NED-46 F1 on enclosed inquiry slip

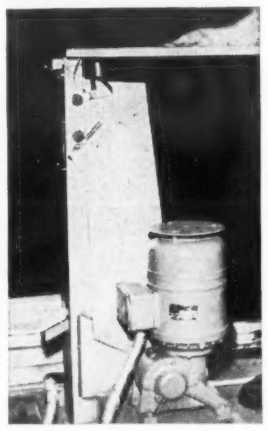
AIR BRAKE stops rotating parts



Rotating parts are stopped uniformly and without fading by this Air Champ brake which operates on static air pressure. Forced draft fin cooling protects isolated friction disc from heat buildup. It has flange or torque arm type universal mounting. Three models are suited for up to 4300 lb-in. torque applications. • **Horton Mfg. Co.,** 1179 15th Ave. S. E., Minneapolis 14, Minn.

For more details circle NED-47 F1 on enclosed inquiry slip

NAIL REMOVING MACHINE can remove 800 nails per hour



Packing box, crate, and skid lumber can be salvaged for re-use by this British-made Veto nail removing machine. Nails with up to 5/16-in. diameter are removed rapidly from boards up to 1½ in. thick to avoid splintering the wood. An unskilled operator can remove up to 800 nails per hour. Planks are simply run across the machine's surface. Rapid toggle action closes machine jaws on nail stems or heads that project ¼-in. or more and pulls them through the board. Machine is supplied with practically any motor. • **Scrap Processing Co.,** Box 294, Downers Grove, Ill.

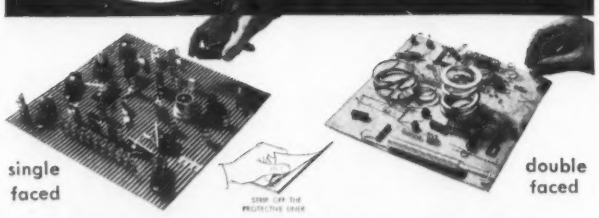
For more details circle NED-48 F1 on enclosed inquiry slip

THROW-AWAY APRON of white vinyl resists chemicals

Easy to wear and comfortable, this 27-in. wide by 42-in. long disposable white plastic apron is light in weight and embossed with a linen-like pattern to retard the flow of drippings. Made of Impervite vinyl, it is resistant to water and chemicals. It resists soiling and staining, and wipes clean easily. Cost is only 20 cents in quantities. Samples are offered. • **Busse Plastics Co.,** 64 E. Eighth St., New York 3, N. Y.

For more details circle NED-49 F1 on enclosed inquiry slip

new idea! ...for shipping, storing and handling of parts & products



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A-F "E-Z-BILD" CONVEYOR COMPONENTS

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For more details circle NED-51 F1 on enclosed inquiry slip

INDUSTRIAL PNEUMATIC **WHEELS**

SUPER-LIGHT
SUPER-BRIGHT
SUPER-STRONG

Go-Power MAGNESIUM Wheels, the lightest you can buy, outperform steel wheels in service on every application from handtrucks to helicopters. They make any wheeled product look better, weigh less, sell faster.

Go-Power magnesium wheels, using standard 4", 5", or 6" pneumatic industrial tires, offer more than **twice** the over-inflation safety factor of conventional steel wheels, and have been tested beyond 270 psi without fracture or deformation.

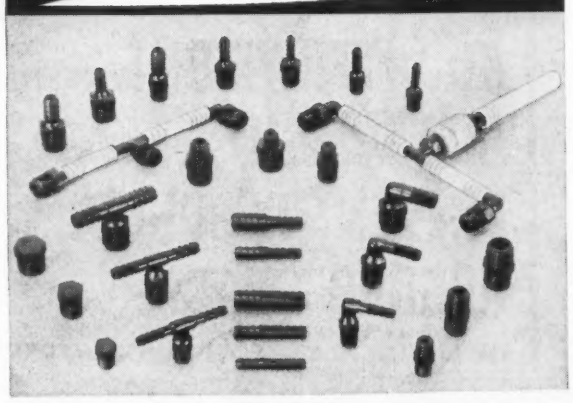
Go-Power magnesium wheels are available in ball-bearing, tapered-bearing, and drive types, in a wide range of spindle lengths to fit almost any application. Only 3 bolts, instead of usual 6, to assemble. Shipped gold-finished or primed, as required, in quantities to fit your production requirements.

Go-Power magnesium wheels are higher in quality, lower in price than any competitive wheels. Rated manufacturers write for OEM price schedule.

GO POWER CORPORATION
Box 613, Dept. E
Palo Alto, California

For more details circle NED-52 F1 on enclosed inquiry slip

THOGUS Tubing and Hose Fittings
(A THOGUS COMPANY PRODUCT)

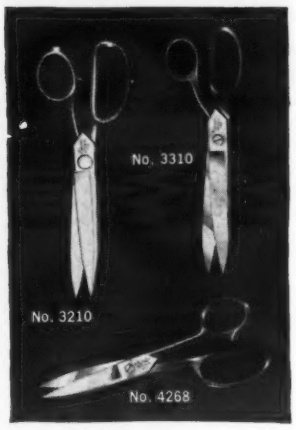


Here's a new line of plastic tube and hose fittings molded of high density polyethylene. Made in iron pipe sizes from ⅛" to ⅜" for a wide variety of applications. Thogus tube and hose fittings are non-corrosive, chemical resistant, with high-impact strength and may be sterilized. Write for literature and prices.

EXCLUSIVE MANUFACTURERS AND SALES AGENTS

IPF INDUSTRIAL PLASTIC FITTINGS DIVISION
The R & K Plastic Industries Company
3891 W. 150th ST. • CLEVELAND 11, OHIO

For more details circle NED-53 F1 on enclosed inquiry slip



Adjustable Heavy Duty Straight Trimmer
10" long with 5" cut .....No. 3210
12" long with 6⅛" cut .....No. 3212

Adjustable Heavy Duty Bent Trimmer
10" long with 4¾" cut .....No. 3310
12" long with 6" cut .....No. 3312

Adjustable Heavy Duty Snip
8" long with 2⅞" cut .....No. 4268

New CLAUSS Rubber Cutting Tools of Molybdenum Outperform Others Yet Cost No More!

Hot hammer forged from molybdenum tool steel to outperform, outlast and require less resharpening than any other shears you have ever used on rubber, heavy fabric, or other rugged industrial applications. They cost no more than ordinary shears made from conventional cutlery steel.

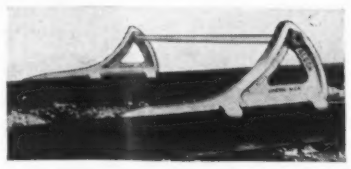
For complete details and prices on these and 115 other Clauss scissors, shears, snips and tweezers write:

Clauss — HOT HAMMER FORGED

The Clauss Cutlery Company
FREMONT, OHIO
New York City Office: 41 East 42nd Street

▲ For more details circle NED-54 F1 on enclosed inquiry slip ▲

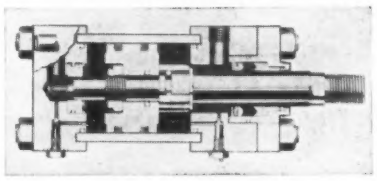
RAIL SKATE stops cars at dock or door



Weighing only 95 lb per set, this portable, friction - type rail skate guards against car puller runaway and possible drifting toward the main line or dead-end of the track. Skate can also be used for spot stopping of cars at warehouse doors and docks. It is applied to or removed from the track without tools. • **Aldon Co.**, Dept. E, 3338 Ravenswood Ave., Chicago 13, Ill.

▲ For more details circle NED-57 F1 on enclosed inquiry slip ▲

AIR & HYDRAULIC CYLINDERS feature full cartridge rod bearings

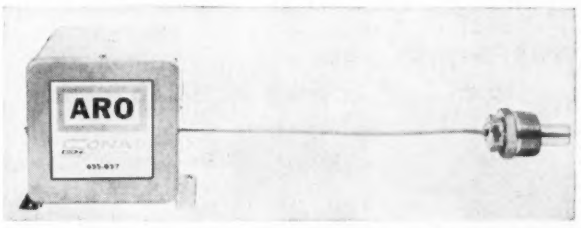


Improvements incorporated in line of air and hydraulic cylinders which meet JIC standards for interchangeability include a cartridge rod bearing with a metal rod scraper and rubber rod wiper. These protect the cylinder from chips and dirt. Bearing can be removed without removing the cylinder from its mount. Cylinders are offered in 1½ to 14-in. bore sizes for 200-psi air and 250/500-psi hydraulic service. O-ring seals throughout are backed up to prevent extrusion. • **Carter Controls, Inc.**, 2876 Bernice Rd., Lansing, Ill.

▲ For more details circle NED-58 F1 on enclosed inquiry slip ▲

ULTRASONIC LEVEL CONTROL for any liquid or slurry

Unaffected by foaming, viscosity, specific gravity, or vibration, this Sonac liquid level control is accurate within 0.005 in. Models are available for service temperatures from −425 to 450° F. Normally, two single sensor systems are needed for on-off liquid flow control. Systems consist of a transistorized amplifier, a power supply and output relay, and a sensing unit which is hermetically sealed in Type 304 stainless steel. Up to 100 ft of cable provides installation flexibility. The safety factor of this explosionproof unit in liquids under pressure is 2000 psi with a 4-to-1 minimum burst. • **Aro Equipment Corp.**, Industrial Div., Erie Street, Bryan, Ohio.



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Thread Clip
4½" long with 1¼" cut ..No. TC4½

Double Sharp Blade Points
5" long with 2⅛" cut .....No. 385C

Sharp and Blunt Blade Points
5" long with 2⅛" cut .....No. 615C

Straight Trimmer
6" long with 2¾" cut .....No. 4216
7" long with 3¼" cut .....No. 4217
8" long with 4" cut .....No. 4218

Bent Trimmer
6" long with 2¾" cut .....No. 4316
7" long with 3¼" cut .....No. 4317
8" long with 4" cut .....No. 4318

CLAUSS Chrome Over Nickel Scissors and Shears Eliminate Rust Spot Risk During Textile Cutting

For complete details and prices on these and over 110 other Clauss scissors, shears, snips and tweezers write:

Clauss — HOT HAMMER FORGED

The Clauss Cutlery Company
FREMONT, OHIO
New York City Office: 41 East 42nd Street

▲ For more details circle NED-61 F1 on enclosed inquiry slip ▲

Get the quality you need to do the job right!

SUNOCO HYDRAULIC OILS

A quality line featuring the one right hydraulic oil for your application and service, that keeps you rolling! Check your Sunoco representative for the Sunoco Hydraulic Oils for the applications below. Or, write direct to Sun Oil Company.

FOR ANY HYDRAULICALLY-OPERATED MACHINE. *Sunvis oils.* Paraffinic. High viscosity index. For wide temperature ranges. For conditions requiring no fortified oil. *Sunvis 700.* For cleaning out dirt and sludge, and keeping clean systems clean. For systems where contamination is a problem, and service unusually severe. *Sunvis 900.* Solvent-refined. Paraffinic. Inherently high V.I.'s. Fortified to resist corrosion and rusting.

FOR 5% OR LESS MAKEUP MONTHLY. *Solnus oils.* Moderately priced. Excellent stability and corrosion protection. Low pour characteristics. Very low carbon residue. Mild cleansing action.

FOR HIGH RATE OF MAKEUP AND EXCESSIVE LEAKAGE. *Suntac oils.* Oxidation-inhibited. Additives reduce leakage.

FOR LOW TEMPERATURES, EXCESSIVE LEAKAGE, excessive contamination. *Circo oils.* Moderately refined vacuum distillates from selected crudes.

SUNOCO QUALITY... THE BEST ECONOMY OF ALL

SUN OIL COMPANY
PHILADELPHIA 3, PENNSYLVANIA, DEPT. ND-6
In Canada: Sun Oil Company Limited
Toronto and Montreal

▲ For more details circle NED-55 F1 on enclosed inquiry slip ▲

Get the quality you need to do the job right!

SUNOCO LUBRICATING OILS

Job-fitted by experts from a complete line of quality lubricating oils . . . backed with service you can count on. Check your Sunoco representative on any application, including those below. Or, write direct to Sun Oil Company.

FOR INDUSTRIAL RESERVOIRS and normal-temperature circulating systems. *Sunvis oils.* Long, trouble-free service. Uniform high viscosity index. Low pour point. Low carbon content. *Sunvis 700.* Cleans dirty systems. Keeps clean systems clean. *Sunvis 900.* Fortified against corrosion and oxidation. Uniform 0 F pour point. Longest possible oil life. Maximum protection to equipment.

FOR RECIPROCATING AIR COMPRESSORS and slow-speed diesels. *Solnus oils.* Prevent excessive carbon build-up. More lubrication per dollar. Ideal general lubricants. Oxidation-resistant. Extremely low carbon content. Prevent rusting and corrosion.

FOR HYDRAULIC, CIRCULATING SYSTEMS. *Suntac oils.* Reduce excessive leakage. Minimize dripping and splash. Clings to bearing surface. Supply constant, superior lubrication. Compounded to increase adhesiveness, oxidation stability, antirust protection, antiwear properties.

FOR HEAVY-DUTY APPLICATIONS. *Sunep oils.* Lead-naphthenate. Extreme pressure type. Rust-preventive. Non-corrosive. High stability. Prolongs gear-set life.

SUNOCO QUALITY... THE BEST ECONOMY OF ALL

SUN OIL COMPANY
PHILADELPHIA 3, PENNSYLVANIA, DEPT. ND-6
In Canada: Sun Oil Company Limited
Toronto and Montreal

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Get the quality you need to do the job right!

SUNOCO GREASES

A complete line of quality greases . . . job-fitted to your requirements by experts, and backed by service that keeps you rolling. Check your Sunoco representative on the Sunoco Greases for the applications below. Or, write direct to Sun Oil Company.

FOR PRESSURE FITTINGS and equipment at normal speeds and temperatures. *Sunoco General Lubricating Greases.* Smooth. Water-resistant. Excellent pumpability.

FOR OPEN-GEAR APPLICATIONS. *Sun Adhesive Greases.* Tacky. Won't drip, squeeze out, or throw off.

FOR SLOW-MOVING, HEAVILY LOADED EQUIPMENT. *Sunoco Heavy-Duty Pressure System Greases.* Also for central systems. Available with EP characteristics added.

FOR ADVERSE WATER OR HUMIDITY CONDITIONS. *Sunoco Rust-Preventive Greases.* Water-resistant. Fortified to prevent rust.

FOR GENERAL-PURPOSE APPLICATIONS where water is not a factor. *Sunoco Short-Fiber Greases.* Heat-resistant, but not water-resistant. Excellent general-purpose greases.

FOR GENERAL-PURPOSE APPLICATIONS where water is a factor. *Sunoco Multi-Purpose Greases.* Water- and heat-resistant. Lithium-based. Available in stabilized or EP type.

For open gears and wire cables. *SUNOCO Gear Compounds.* Black. Adhesive.

SUNOCO QUALITY... THE BEST ECONOMY OF ALL

SUN OIL COMPANY
PHILADELPHIA 3, PENNSYLVANIA, DEPT. ND-6
In Canada: Sun Oil Company Limited
Toronto and Montreal

▲ For more details circle NED-56 F1 on enclosed inquiry slip ▲

Get the quality you need to do the job right!

SUNOCO CUTTING OILS

A full line of quality transparent and emulsifying cutting oils and chemical coolants . . . job-fitted by men who know what they're doing and backed by service that keeps you rolling. Check your Sunoco representative for help on any cutting oil including the following applications. Or write direct to Sun Oil Company.

FOR COOLING, LUBRICATING METALWORKING OPERATIONS. *Sunoco Emulsifying Cutting Oil.* Mixes with water to produce stable white emulsion. Economical. Excellent grinding coolant, too.

FOR MEDIUM DUTY ON AUTOMATIC SCREW MACHINES, cutting non-ferrous metals and free-machining steels. *Sunicut 11-S.* Low viscosity, excellent cooling properties. Ideal for high-speed production.

FOR "JOB SHOP" OPERATIONS where many metals are machined. *Sunicut 5534.* Transparent. Unusually versatile. For medium duty operations. Excellent general-purpose cutting fluid.

FOR PRODUCTION THREADING OF STEEL PIPE. *Sunicut 85.* Transparent sulfurized cutting oil. Contains oiliness additives. Provides smooth movement of collapsible die heads. Excellent for production form grinding.

FOR METAL CUTTING AND GRINDING OPERATIONS. *Suncool* chemical coolant. Completely soluble in water. Clear. Non-oily. Recommended where excellent metal wetting and extreme pressure are desired.

FOR HIGH-PRESSURE, DEEP HOLE GUN DRILLING OPERATIONS. *Sunicut 416.* Gives exceptionally fine finishes.

SUNOCO QUALITY... THE BEST ECONOMY OF ALL

SUN OIL COMPANY
PHILADELPHIA 3, PENNSYLVANIA, DEPT. ND 6
In Canada: Sun Oil Company Limited
Toronto and Montreal

▲ For more details circle NED-60 F1 on enclosed inquiry slip ▲

Get the quality you need to do the job right!

SUNOCO QUENCHING OILS

A quality line of both paraffinic and naphthenic oils . . . job-fitted by men you can rely on, and backed by service you have a right to expect. Check your Sunoco representative on any quenching oil need, including those below. Or, write direct to Sun Oil Company.

FOR LOW SLUDGING AND HIGH DETERGENCY. Sun Quenching. Oil Light. Well-refined. Naphthenic. Vicosity: 100-115 at 100 F. Reduces maintenance costs by keeping oil coolers and piping free from sludge.

FOR QUENCHING SYSTEMS REQUIRING high flash point oil. Sun Quenching Oil No. 11. Highly refined. Paraffinic. Viscosity: 100-120 SUS at 100 F. High thermal stability. Narrow boiling range. Also suitable for bright quenching from controlled atmosphere furnaces.

FOR MAXIMUM HARDNESS, MINIMUM DISTORTION in heat-treated steel parts. Sunquench 1070. Premium quality. Fast quenching . . . Oxidation-inhibited. High flash. Paraffinic. Viscosity: 85-95 SUS at 100 F.

FOR "HOT OIL" QUENCHING in 200-300 F range. Sunquench 1021. Premium quality. Fast quenching. Oxidation-inhibited. For quenching gears in automotive, farm machinery, and aircraft industries for maximum physical properties with minimum distortion.

FOR "HOT OIL" QUENCHING in 300-400 F range. Sunquench 2125-2145. Premium quality. Additives prolong life at high temperatures, help keep quenched parts clean and sludge-free.

SUNOCO QUALITY... THE BEST ECONOMY OF ALL

SUN OIL COMPANY
PHILADELPHIA 3, PENNSYLVANIA, DEPT. ND-6
In Canada: Sun Oil Company Limited
Toronto and Montreal

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BREATHE EASIER

Double filters provide comfortable breathing. Soft rubber face mask gives air-tight fit. Sanitary face cloth protects against dermatitis or chafing. Patented exhalation valve guards against re-breathing stale air.

Cover scientifically designed respirators have been adopted as standard equipment by industries the world over. Free literature on request describing models for every purpose. See your safety equipment supplier or order sample direct. Model shown—only $2.25 postpaid.

H. S. COVER
Dept. 605, South Bend 14, Ind.
"Respirators for Industry Since 1894"

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NOW!
Branded for lifetime identification

HOW IT'S DONE: The mark is embossed onto, not stamped into, the chain.

CHAIN BUYERS & USERS—Now you can be sure of the make of chain you are getting and of the grade (strength) of the chain you are using...a definite safety advantage. Available on Inswell Proof Coil, BBB, High Test and the ½" and smaller sizes of Herc-Alloy chain.

SPECIFY "CM" CHAIN

RUGGED · DURABLE CM CHAIN

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CHICAGO, CLEVELAND, SAN FRANCISCO
In Canada: Columbus McKinnon Limited, St. Catharines, Ontario
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for *QUICK-AS-A-WINK*-
PERMANENT IDENTIFICATION
Every Material... Every Application!

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ON EVERY SURFACE, marking's easy and lasting when you use Markal Paintstik Markers. No matter whether it's hot or cold, dry or wet or oily—there's a specific type to do the job on metals, wood, plastic, rubber, glass, ceramic, any other surface. To be sure, insist on Markal for your marking requirements.

16 Types To Serve You!

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MARKAL CO. • 3053 West Carroll Avenue • Chicago 12, Illinois
WRITE TODAY for free Markal Catalog. If you have a marking problem, send details.

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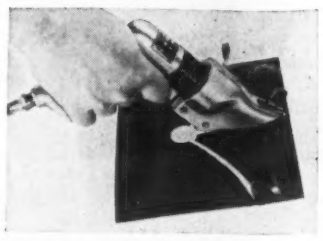
PORTABLE METAL SHEAR
also cuts plastic, other materials



Compact 2-lb air-powered sheet metal shear is economical and easy to use. Cleanly and without distortion, the tool scissors a 7/32-in. path through such materials as 18-gage mild steel, laminated plastic, aluminum, and glass fiber reinforced plastic. Speed is regulated by a sensitive throttle. Cuts can be started from edge of sheet or in a ¼-in. access hole, then continued in any desired pattern of lines or circles as small as 2-in. radius. Pistol and straight grip models are both priced at $125. • **Buckeye Tools Corp.**, 5003 Springboro Pike, Dayton 1, Ohio.

▲ For more details circle **NED-71 F1** on enclosed inquiry slip ▲

MODULAR FIRE ALARMS
adapt to variety of systems

Low cost, compact sizes, modular construction, flexibility of system, and ease of installation contribute to the versatility of this line of fire alarms. A total of 17 modular panels are used to assemble a wide variety of custom systems, using only those panels required to meet the application needs. Systems are factory-assembled from off-the-shelf components. Line includes non-code, closed-circuit supervised, plain-code supervised, and shunt noninterfering coded supervised systems. The systems are mounted in steel cabinets, and are readily expanded. These UL-approved systems operate on 120/240-v 3-wire ac. • **Faraday, Inc.**, Adrian, Mich.

▲ For more details circle **NED-72 F1** on enclosed inquiry slip ▲

WAREHOUSE TUG
tows trailers with 20,000-lb loads

Stock trailers with loads weighing up to 20,000 lb are easily towed by this standup drive type Taylortruck Model E warehouse tug. Unit is equipped with automotive steering, squeeze-grip accelerator ring, and foot-actuated hitch release. It is designed for quick battery substitution to make round-the-clock operations feasible. • **Taylor-Dunn Mfg. Co.**, 2114-26 W. Ball Rd., Anaheim, Calif.

▲ For more details circle **NED-73 F1** on enclosed inquiry slip ▲

Only BUSCHMAN has ALL 3!
IN-STOCK delivery on a COMPLETE range of roller & wheel conveyors for Light, Medium, & Heavy Use

LIGHT — #138 Rollers. Rust-resistant. For low-cost carton handling. 12" to 18" widths.
MEDIUM — Aluminum, steel; wheel or roller. QUICK-EEZ couplings. 12", 15" & 18" widths.
HEAVY — #190 Rollers. High capacity handling. 15", 19" & 25" widths.

Write today for literature

Buschman CONVEYORS 372

Complete Conveyor Systems for all Types of Industries—Engineered, Manufactured, Installed
Representatives in Principal Cities

The E. W. Buschman Company, 4482 Clifton Avenue, Cincinnati 32, Ohio

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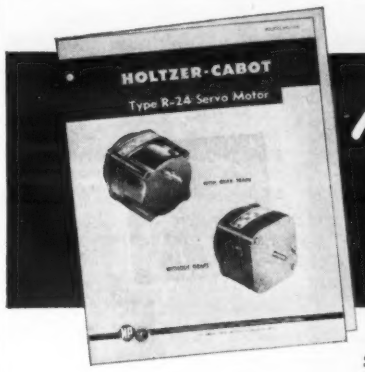


NEW!
DETAILED DATA ON SERVO MOTORS

Send for Bulletin MO-3.7A

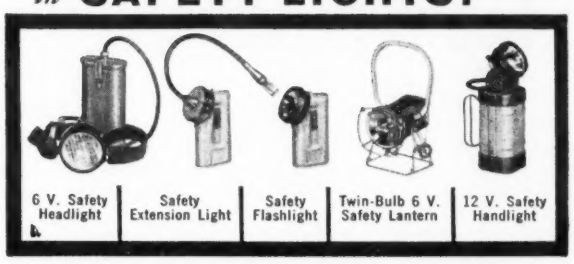
Here's information you can use to increase speed and accuracy in high precision control and measuring equipment . . . 4 fact-filled pages on Holtzer-Cabot's line of R-24 Servo Motors. Contains 3 sets of speed-torque, performance curves and other pertinent data such as starting voltage, stall torque, rotor inertia, acceleration at stall, etc. Covers R-24 motors available with stacking lengths of 0.5", 0.7", 1.0" and 1.4". Models with or without gear trains. Write: Holtzer-Cabot Motor Division, 125 Amory Street, Boston 19, Massachusetts.

HOLTZER NP CABOT
MOTOR DIVISION
National Pneumatic Co., Inc., Boston 19, Mass.

▲ For more details circle **NED-75 F1** on enclosed inquiry slip ▲

JUSTRITE

. . . America's greatest name in **SAFETY LIGHTS!**



The hazards of fire and explosion are two of the greatest dangers to plant safety. For more than 50 years, JUSTRITE has specialized in the development and manufacture of portable safety lights that meet the most rigid safety requirements and are easy to handle, resulting in employee approval. Why not standardize on the safety equipment that has been proved in thousands of situations? No wonder safety engineers say "JUSTRITE is all right!"

FREE!
A complete 16-page, illustrated, descriptive Catalog, includes comprehensive table of operating data on dry batteries and lamps.

WORLD'S STANDARD OF SAFETY SINCE 1906

JUSTRITE MANUFACTURING COMPANY
2061 NORTH SOUTHPORT AVENUE • CHICAGO 14, ILLINOIS

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New Dri-Kool Cuts Grinding Costs

- More metal removed, faster
- Less friction
- Better finished product

Dri-Kool improves the wheel of your choice

Some experts say, "Change the wheel". Dri-Kool performs on the wheel of your choice. Dri-Kool is the result of a patented process suspending synthetic colloidal graphite in a non-toxic, volatile carrier.

Easy To Treat—One Treatment Lasts For The Life Of The Wheel.

- Less Friction
- Less Pressure Required
- Less Heat
- Less Loading
- Less Glazing
- Less Heat Checking
- Less Down Time
- Less Dressing
- More Parts Between Dressings
- Faster Cooler Grinding
- Wheels Hold Sharp Corners Longer
- Better Micro Finish

Longer wheel life more than pays the cost.

Write for literature and prices
KING GRAPHITE PRODUCTS, Inc.
21949 S. Telegraph Rd., Trenton, Michigan

NOTE: Resenoid wheels require special handling. For special problems consult our Engineering Dept. —Send complete details for quick response.

Ask about famous KGP-5EO for all water coolants, wet grinding, milling, drilling, etc.

DISTRIBUTORS Write for details

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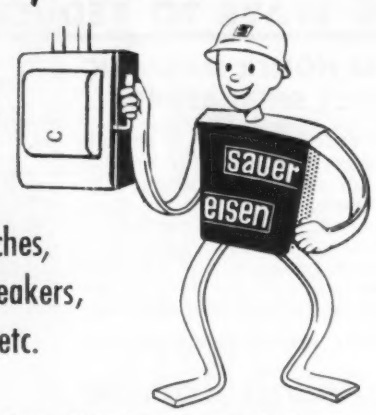
Here's sure protection against flashback



on switches, circuit-breakers, controls, etc.

Sauereisen Insa-Lute Adhesive Cement No. 1 provides a ceramic-like coating that insulates electricity and withstands thermal shock. Easily applied by brushing or spraying. Hundreds of other uses.

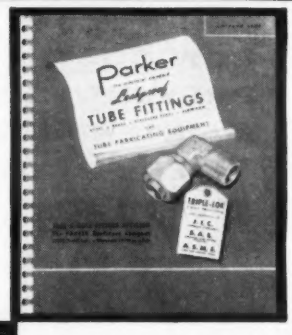
Ask for Data Sheets.

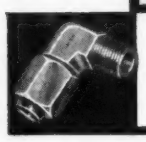
SPECIAL TRIAL ORDER $4.40 for making tests under your own conditions — Gallon Can

Sauereisen Cements Co., Pittsburgh 15, Pa.

SAUEREISEN Insa-Lute CEMENT **No. 1**

For more details circle NED-78 F1 on enclosed inquiry slip





Pick the right tube fitting quicker with this 128-page Parker Data Book

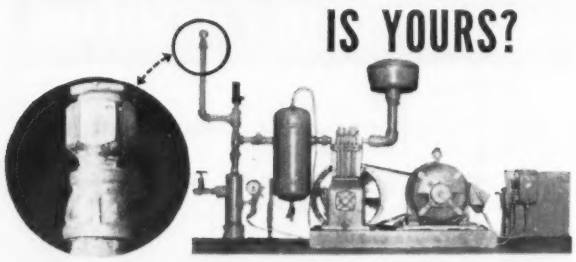
All the data to design or "tube up" an industrial system is included in this 128-page Parker Tube Fittings Catalog. Guides you in proper tube selection. Gives installation hints, also descriptions and dimensions of all Parker Fittings: "Triple-lok," "Ferulok," "Intru-lok," "Weld-lok," "Braze-lok," in steel and stainless steel, copper, aluminum, brass, for any industrial system from instrument lines to high pressure hydraulic lines.

Ask your Parker distributor, listed in the Yellow Pages, for a Parker 4300 Catalog. Or write . . .

Parker FITTINGS AND HOSE DIVISION
17325 Euclid Avenue • Cleveland 12, Ohio
A DIVISION OF PARKER-HANNIFIN CORPORATION

For more details circle NED-79 F1 on enclosed inquiry slip

This Air Compressor Is Safe! IS YOURS?



Compressed air receiver tanks are a potential hazard. Atomized lubricant from the compressor can discharge continually into the receiver. Under high temperature, the resultant oil vapor will ignite. Stoppage of the cooling water supply or recompression of the air which has reentered the cylinder through leaky discharge valves or piston rings will pyramid the temperature. Also a spark of incandescent carbon can be carried over from the compressor cylinder to ignite the vaporized oil-air mixture.

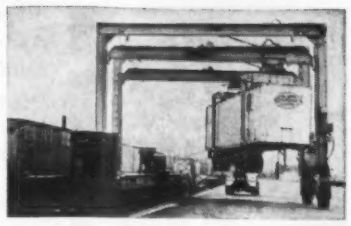
When the rapid pressure rise occurs, you need instantaneous pressure relief and you need it fast. The answer is a BS&B Safety Head.

For complete information on Safety Heads write BS&B, 7500 East 12th Street, Kansas City, Missouri. 2-L6

BSB BLACK, SIVALLS & BRYSON
KANSAS CITY • OKLAHOMA CITY • TULSA
EDMONTON • THE HAGUE

For more details circle NED-80 F1 on enclosed inquiry slip

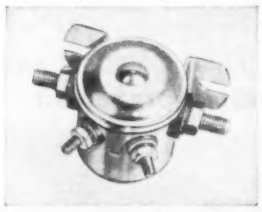
TRAILER HANDLING LIFT
speeds piggyback car unloading



Truck trailers hauled on railroad flatcars as part of a piggyback service offered by many railroads are quickly unloaded by the Travelift mobile crane. It makes possible unloading from either side of the flatcar and placing the trailers at an angle for selective pickup, regardless of car location. • **Drott Mfg. Corp.**, Box 598, Sturgeon Bay, Wis.

For more details circle NED-81 F1 on enclosed inquiry slip

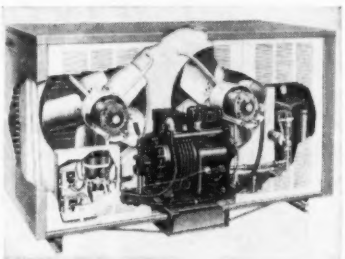
SOLENOID SWITCH
rated for 100 amp, 500,000 cycles



This heavy-duty, silver contact solenoid switch rated for 100-amp load and 500,000 cycles is designed for industrial and marine use in engines and motors using 12-v current. It closes and seals at 60 per cent of rated voltage in any position at room temperature. Release voltage is 15 per cent of rated voltage. In addition to UL inspection, unit has passed 700-v ac breakdown test between case and current carrying parts. Double terminal insulated coil, standard 5/16-24 studs, 10-32 coil terminals, automotive type mounting bracket, and 50 per cent duty cycle are among features. • **Clum Mfg. Co.**, 611 W. National Ave., Milwaukee 4, Wis.

For more details circle NED-82 F1 on enclosed inquiry slip

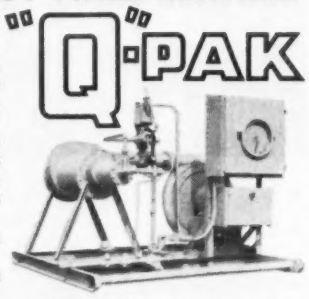
REMOTE AIR CONDITIONER
7½-hp unit rated at 93,000 Btu



Compact 7½-hp remote air conditioning unit rated at 93,000 Btu has a capacity of 7¾ tons achieved through contrarotating fans which deliver a balanced air pattern across the large condenser coil. A low ambient capacity controller modulates condenser air delivery to maintain capacities required to cool commercial buildings under all conditions. Working parts are supported by heavy steel frame mounted on a treated wooden skid base. The Polar-Prince air conditioner is designed to be used with company's three-direction Unicooler coil and blower unit, but can be installed with any standard coil-blower combination of adequate capacity. • **Coleman Co.**, 250 N. St. Francis Ave., Wichita 1, Kans.

For more details circle NED-83 F1 on enclosed inquiry slip

PACKAGED DIRECT-FIRED HEATERS



"Q"-PAK is BS&B's amazingly compact, yet versatile, direct-fired heater . . . packaged, ready for hook-up and use. "Q"-PAK utilizes BS&B's revolutionary fuel reactor which provides complete combustion. Heat discharge is clean . . . free of combustionables even at 0% excess air.

Check these application features:

- Operates safely on high hydrogen fuel.
- May be used to generate inert gas.
- Will burn low BTU, low pressure fuels.
- High heat release rates up to 10,000,000 BTU/Hr. Per Cubic Foot of combustion volume.

APPLICATIONS

- Indirect Heating of Process Fluids
- Heated Process Air For Spray Dryer
- Flue Gas Recirculation Applied to Rotary Dryer or Kiln
- Multi Stage Chemical Reactor
- Waste Disposal Unit
- Flue Gas Recirculation Heating for Applications Requiring High Efficiencies and Inert Atmospheres

For the "Q"-PAK story, write: BS&B, 7500 E. 12th Street, K.C., Mo. 1-L6

BSB BLACK, SIVALLS & BRYSON
OKLAHOMA CITY • KANSAS CITY
TULSA • EDMONTON • THE HAGUE

For more details circle NED-84 F1 on enclosed inquiry slip

Valuable FREE BROCHURE

Whether you require the close tolerance needed in a satellite—or the economical production necessary for a 10c toy . . . DUDEK & BOCK is your most dependable source for springs, wire forms and stampings. Years of know-how *quality control* guarantee you top performance at lower cost.

Phone DICKENS 2-1020 *for estimates and delivery dates*

DUDEK & BOCK
SPRING MANUFACTURING CO.
4014 W. GRAND AVE. • CHICAGO 51, ILL.

For more details circle NED-85 F1 on enclosed inquiry slip

Make overhead space contribute to plant earnings

CAPACITIES ½ TO 5 TON

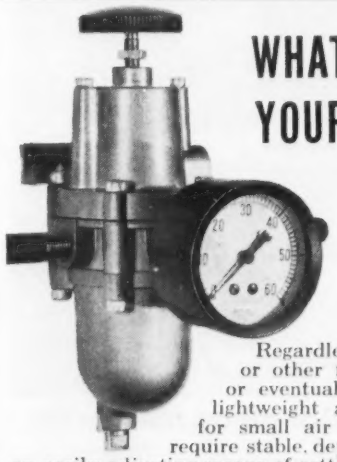
CM METEOR WIRE ROPE ELECTRIC HOIST

• SINGLE AND TWO SPEED MODELS

METEORS offer real materials handling help in many ways. Read all about their unusual operating advantages in the METEOR CATALOG *sent on request*. Illustrates all details of suspension and construction. Prices included.

CM HOISTS — CHISHOLM-MOORE HOIST DIVISION
COLUMBUS McKINNON CORPORATION
TONAWANDA, NEW YORK
DISTRICT OFFICES: NEW YORK, CHICAGO, CLEVELAND
In Canada: COLUMBUS McKINNON LIMITED, ST. CATHARINES, ONT.

For more details circle NED-86 F1 on enclosed inquiry slip



WHAT IS YOUR FUNCTION?

research
design
testing
manufacturing

Regardless of whether it is these or other functions, you are now or eventually will use a compact, lightweight and accurate regulator for small air (gas) lines. You will require stable, dependable regulation and an easily adjusting means of setting the output pressure.

Your best buy will be the 73-26 utility regulator. It is aluminum with stainless internals, large adjusting knob, 5 micron sintered bronze of 40 micron cellulose filter, and a blow down screw equipped with a safety clip at the bottom. Maximum inlet pressure is 300 psig. Choice of two springs—up to 40 psi or up to 100 psi output.

Write for the story today or send check or money order in the amount of $13.00. Specify Type 73-26-1. BS&B, 7500 East 12th St., Kansas City, Missouri. 4-L6

BSB BLACK, SIVALLS & BRYSON
OKLAHOMA CITY • KANSAS CITY • TULSA
EDMONTON • THE HAGUE

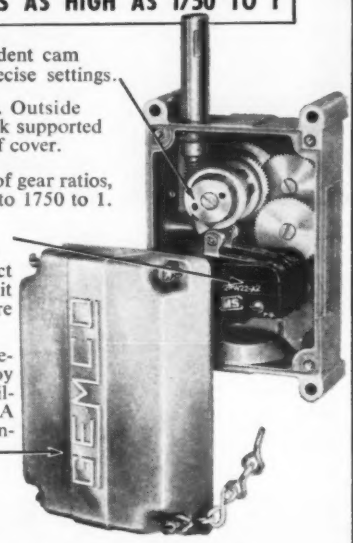
For more details circle NED-87 F1 on enclosed inquiry slip

simplify complex linkage and control problems...

GEMCO
ROTARY LIMIT SWITCHES

GEAR RATIOS AS HIGH AS 1750 TO 1

- Quick, independent cam adjustment. Precise settings.
- Easy mounting. Outside holes. Cam block supported independently of cover.
- Broadest range of gear ratios, from 5 to 1 up to 1750 to 1.
- Easy to wire. Snap-action switches in direct line with conduit connection. More inside space.
- Tough, impact resistant Fibralloy case! (Also available in NEMA type 4 and 7 enclosures.)



WRITE FOR BULLETIN 254

GEMCO ELECTRIC COMPANY
25685 West Eight Mile, Detroit 40, Mich.

For more details circle NED-88 F1 on enclosed inquiry slip

Handiest TOOL IN THE PLANT!

NEW BULLETIN
Gives all the facts.
Ask for new Bulletin

CLEMENTS
Cadillac® BLOWER-SUCTION CLEANERS

Portable — versatile — economical. Simplest, quickest way to clean motors, machinery and other equipment. Pays for itself in any plant. Ask your dealer for a demonstration.

4 BLOWER-SUCTION MODELS
...including powerful Model HP with 2-speed motor for double duty. Easy starting at low speeds prevents blowing of fuses. All models available with attachments for handling many special tasks.

HANDLES 101 CLEANING JOBS
Blows dust, grit, chips and filings from hard-to-reach places. Use it as a suction cleaner for all kinds of jobs, or even to salvage bits of rare metal. Other models for annealing, soldering, and for preheating for bending.

BLOWER DIVISION | **CLEMENTS MFG. CO.**
6627 S. Narragansett Ave., Chicago 38, Ill.

SINCE 1910 Specialists in Quality Cleaning Equipment

For more details circle NED-89 F1 on enclosed inquiry slip

NEW DEWALT IDEAS BUILD NEW PROFITS!

Does the work of many machines!

DEWALT reduces your investment 60% or more. It does the work... saves the cost and space... of *many* power tools. Use coupon for free copy of new DeWalt IDEA BOOK.

DEWALT, Inc., Dept. NE661, Lancaster, Pa.
Please send free DeWalt IDEA BOOK.

Name_____
Address_____
City_____ State_____

Custom-built by DEWALT, Inc., A *Black & Decker* SUBSIDIARY

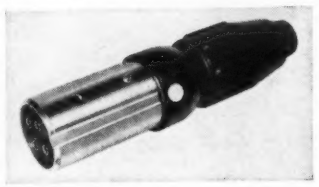
For more details circle NED-90 F1 on enclosed inquiry slip

FLAT HEAD CAP SCREWS
diameters from 1/4 to 3/4 in.

All surfaces of the head, point, and slot are machined on these flat head cap screws, a precision fastener with an appearance similar to a countersunk bolt and a flat head machine screw. Cold heading and roll threading give them high fatigue failure resistance. Design flexibility is possible when fastening thin sections to an assembly by threading up to the screw head. The uniformly bright finished concentric screws are stocked in carbon steel. High carbon, alloy steel, aluminum, brass, bronze, or corrosion resisting steels can be specified. Diameters from 1/4 to 3/4 in. are made in various lengths. • **Screw & Bolt Corp. of America**, Box 1708, Pittsburgh 30, Pa.

For more details circle NED-91 F1 on enclosed inquiry slip

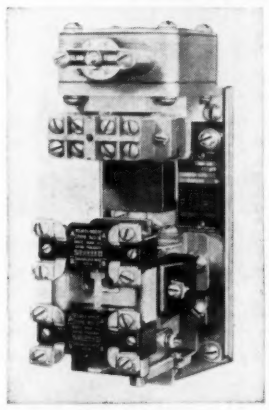
SAFE POWER PLUG
is 60-amp, grounded, neoprene unit



Oil-resistant neoprene rubber body, Safety Pin ground contact, Gator Grip connector-to-cable attachment, and insulated arc-snuffing chambers are features of this extra-safe 60-amp electric power plug. The Safety Pin makes contact first and breaks last for operator protection. • **Joy Mfg. Co.**, Electrical Products Div., 1201 Macklind Ave., St. Louis 10, Mo.

For more details circle NED-92 F1 on enclosed inquiry slip

TWO-POLE TIMING RELAY
for both ac and dc operation



Need for installing an extra timer or relay for control of additional circuits is eliminated by use of the Class 9050 Type B and C timing relays, now available with a two-pole snap switch. It doubles the number of contacts and mounts in the same space as a single-pole timer. New unit can also be furnished with one or two single-pole double-throw instantaneous snap switch interlocks, and is easily converted from on-delay to off-delay and vice versa. Timing is adjustable from 0.2 sec to 3 min. Contacts are totally enclosed in the timers, available for both alternating direct current operation in a variety of enclosures. • **Square D Co.**, Dept. SA, 4041 N. Richards St., Milwaukee 12, Wis.

For more details circle NED-93 F1 on enclosed inquiry slip

MAG-PNEU-POWER
TRIP-L-TRAP®
condensate
DISCHARGE CONTROL

FOR EVERY PNEUMATIC SYSTEM

- Magnetic Trip Action
- System Pressure Powered
- Pilot-Actuated Operation
- Large-Orifice Condensate Ejection
- Guards Itself Against Clogging
- 10-200 PSIG Operation
- **One-Year Operation Guarantee**

Model 501
Pat. Pending

Send for Bulletin 502

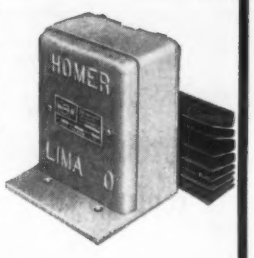
Hankison CORPORATION
College & Pike • Canonsburg, Pa. (Greater Pittsburgh Area)

For more details circle NED-94 F1 on enclosed inquiry slip

2 WAYS TO REDUCE COSTS

USE HOMER MAGNETIC SHEET SEPARATORS...

To speed handling of round, square, irregular or nested steel shapes in shearing, pressing or other production operations. Automatically separate stacks of oily, polished, enameled or painted sheets without prying, scratching or marring the surfaces.



WRITE FOR BULLETIN SS-210

USE HOMER MAGNETIC SWEEPERS...

To cut plant housekeeping costs by quickly and easily keeping aisles and roadways free of ferrous scrap. Homer Magnetic Hand Sweepers available in sweeping widths 12" to 36". Road sweepers, widths 48" to 96".

WRITE FOR BULLETIN MS-250-1

HOMER MANUFACTURING DIVISION
THE OHIO ELECTRIC MANUFACTURING CO.
DEPT. 124 • LIMA, OHIO

For more details circle NED-95 F1 on enclosed inquiry slip

FOR
Blowers
Cables
Chassis
Circuit breakers
Coils
Conduits
Contactors
Controls
Fixtures
Fuses
Generators
Housings
Ignition Systems
Instruments
Insulation
Microphones
Motors
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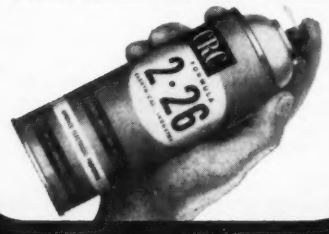
Panelboards
Receivers
Recorders
Relays
Rheostats
Shielding
Signals
Solenoids
Sub-assemblies
Switchgear
Synchronizers
Timers
Transformers
Transmitters
Tubes
Welders

LOW COST PREVENTIVE MAINTENANCE *SAVES ELECTRICAL EQUIPMENT*

Electrical and electronic components last longer, maintain electrical constants, keep operating when treated with CRC 2-26. This non-toxic, harmless chemical stops rust and corrosion, cleans and lubricates, pays for itself in a short time.

Write for complete information to:
CORROSION REACTION CONSULTANTS
116-2J Chestnut Street, Phila. 6, Pa.

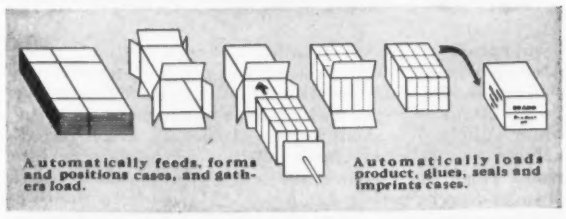


Ask your distributor

For more details circle NED-96 F1 on enclosed inquiry slip

Take the HANDS out of PRODUCT HANDLING

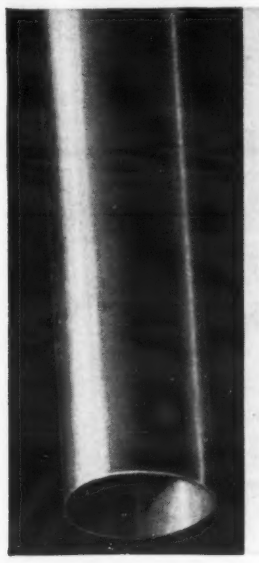
Let Packomatic equipment do any or all your casing operations
AUTOMATICALLY



FOR CASING ROUND, SQUARE, RECTANGULAR OR FREE-FORM PACKAGES OF VIRTUALLY ANY SIZE. If you employ even one person per shift to hand-form cases, or to hand-pack, hand-seal, or hand-imprint them, then it can pay you to install Packomatic equipment. Write, phone or wire for facts on how to reduce your casing costs.

J. L. FERGUSON COMPANY
A Division of
TEXTILE MACHINE WORKS, Reading, Pa.
Box 1226 (Phone Sarasota 5-2311) Joliet, Illinois

For more details circle NED-97 F1 on enclosed inquiry slip

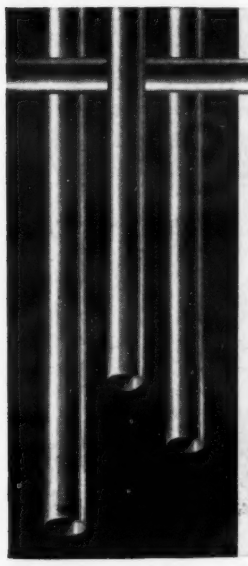


NEED BRASS TUBE?

WRITE

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. N, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
TUBEMANSHIP in Copper—Copper Alloys—Aluminum—Special Metals

For more details circle NED-98 F1 on enclosed inquiry slip



For "Quality Controlled" CONTROL TUBE

WRITE

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. N, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
TUBEMANSHIP in Copper—Copper Alloys—Aluminum—Special Metals

For more details circle NED-99 F1 on enclosed inquiry slip

FOR TUBING INFORMATION
Write for Wolverine Literature

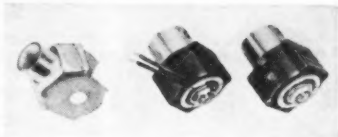
- ☐ THE MEASURE OF TUBEMANSHIP
- ☐ WOLVERINE SERVES THE REFRIGERATION INDUSTRY
- ☐ STATEMENT OF SCOPE
- ☐ TOMORROW'S METALS TODAY
- ☐ CAPILATOR® BROCHURE
- ☐ COMMERCIAL TUBE CATALOG
- ☐ WOLVERINE ALUMINUM CATALOG
- ☐ MEN OF WOLVERINE

Write on your letterhead for literature listed.

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. N, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
TUBEMANSHIP in Copper—Copper Alloys—Aluminum—Special Metals

For more details circle NED-100 F1 on enclosed inquiry slip

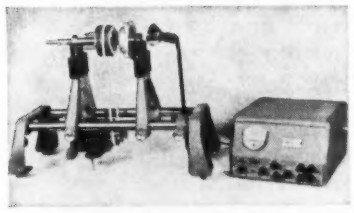
SOLENOID VALVES
compact units are moistureproof



Used with or without an outer housing, this line of moistureproof solenoid valves can be rotated 360 degrees and is reversible to simplify installation. The magnetic circuit is encapsulated in epoxy. Rectifier diodes molded into the unitized magnetic circuit can be supplied to allow operation as direct current units from an alternating current power source with no increase in valve size. The compact valves have noiseless operation, ripple-less holding, and low wattage consumption. Safe installation is possible in difficult atmospheric conditions. Polyvinyl chloride leads or spade terminals are available. • **Peter Paul Electronics, Inc.**, 251 Whiting St., New Britain, Conn.

For more details circle NED-101 F1 on enclosed inquiry slip

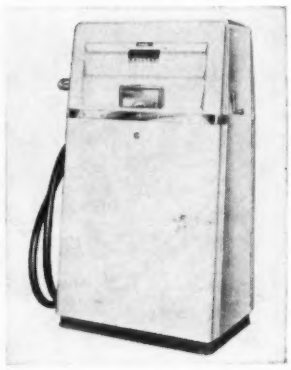
BALANCING MACHINE
for 4-oz to 100-lb rotor weights



Measurable unbalance displacement of the Model MU 6 balancing machine is 10 microinches or 0.00001 in. The portable, easy to operate machine accommodates a rotor weight range of 4 oz to 100 lb, and requires no hold-downs or foundation. Power requirement is 115 to 125-v 60-cycle ac. • **Micro-Balancing, Inc.**, Herricks Road, Garden City Park, L. I., N. Y.

For more details circle NED-102 F1 on enclosed inquiry slip

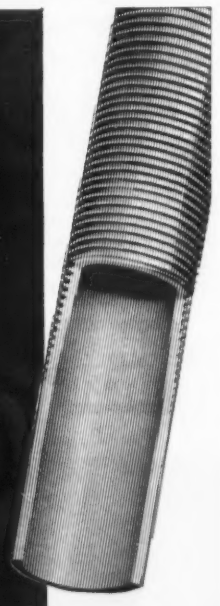
INDUSTRIAL GASOLINE PUMP
with or without ticket printer



Eight models comprise this line of Interceptor pumps for commercial and industrial use. They are available either as suction pumps or island dispensers for remote pumping, with or without ticket printers, and in standard or high speed models. All have 1000-gal horizontal dials and 1-million gallon continuous totalizers. They are powered by a 115/230-v ac motor rated at 1/3 hp. One turn of lever locks the slip and prints "00" on the slip. After delivery a second turn of the lever prints the gallons delivered and releases the slip. • **Tokheim Corp.**, 1554 Wabash Ave., Ft. Wayne 1, Ind.

For more details circle NED-103 F1 on enclosed inquiry slip

NEED HELP ON HEAT TRANSFER?



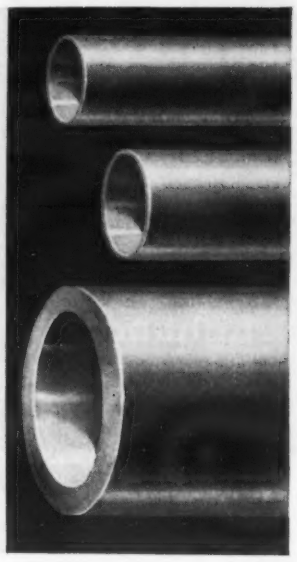
Call for a Wolverine Heat Transfer Specialist to discuss Wolverine Trufin', the integral finned tube for increased heat transfer!

Wolverine Trufin is available in Canada through the Unifin Tube Division, London, Ontario.

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. N, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
TUBEMANSHIP in Copper—Copper Alloys—Aluminum—Special Metals

For more details circle NED-104 F1 on enclosed inquiry slip

Looking for Commercial Copper and Copper Alloy Tube?



WRITE

WOLVERINE TUBE
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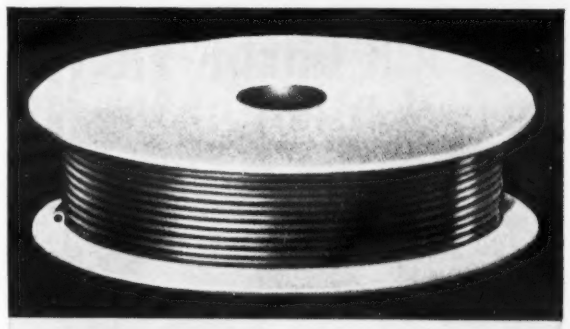
DEPT. N, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
TUBEMANSHIP in Copper—Copper Alloys—Aluminum—Special Metals

For more details circle NED-105 F1 on enclosed inquiry slip



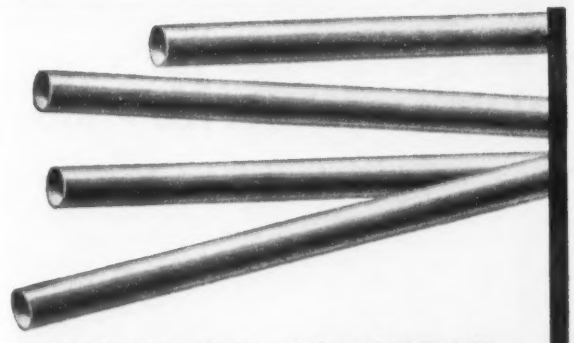
PACKAGED FOR PRODUCTION LINE REQUIREMENTS

• *Wolverine Copper Tube in Long Length Level Wound Coils on a Reel*

WRITE

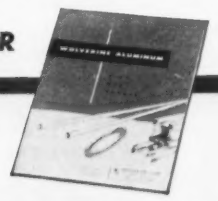
WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. N, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
TUBEMANSHIP in Copper—Copper Alloys—Aluminum—Special Metals

For more details circle NED-106 F1 on enclosed inquiry slip



LOOKING FOR INFORMATION ON ALUMINUM TUBE?

WRITE FOR



WOLVERINE TUBE
DIVISION OF
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DEPT. N, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
TUBEMANSHIP in Copper—Copper Alloys—Aluminum—Special Metals

For more details circle NED-107 F1 on enclosed inquiry slip

—with the right Macwhyte

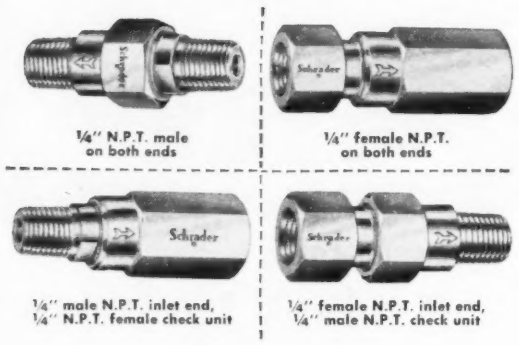
Is your wire rope exposed to corrosive conditions? To marine atmospheres? Have you tried Macwhyte Corrosion-Resistant Wire Rope? Stainless Steel, Monel Metal, Galvanized Steel, Plastic coated, or Nylon coated. You will find what you need in the complete Macwhyte line. Sizes available from 1/32" to 1½" in any length. Ask for Bulletin 49-30. Macwhyte Wire Rope Company, 2900 Fourteenth Avenue, Kenosha, Wisconsin.

MACWHYTE

253

▲ For more details circle **NED-108 F1** on enclosed inquiry slip ▲

NEW AIR CHECK VALVES



¼" N.P.T. male on both ends

¼" female N.P.T. on both ends

¼" male N.P.T. inlet end, ¼" N.P.T. female check unit

¼" female N.P.T. inlet end, ¼" male N.P.T. check unit

. . . have spring loaded check to assure positive sealing action at low pressures

. . . extremely compact, relative to large flow capacity

Permit air flow in one direction and check air flow in opposite direction. Long, trouble free service assured by generous seating area between metal check and oil resistant washer. All metal parts are of brass, or heavily plated for corrosion resistance.

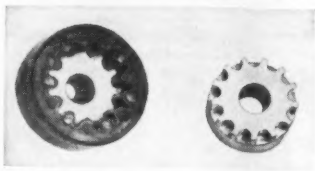
Informative literature available on these and hundreds of other Schrader Air Products. Direct all your questions on air control to Schrader, headquarters for up-to-the-minute information.

Schrader®

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Inc.
459 Vanderbilt Avenue, Brooklyn 38, N. Y.

▲ For more details circle **NED-109 F1** on enclosed inquiry slip ▲

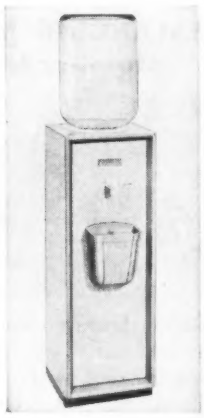
FLEXIBLE COUPLING
cushioned in urethane rubber



Angular and parallel misalignment are compensated for in the Splineflex shock-absorbing, flexible coupling which is cushioned in urethane rubber. The rubber center member is made up of a series of metal parts molded in rubber and set to distribute the load evenly throughout the flexible center. Unit is self-lubricating and self-sealing against intrusion of foreign matter. Rubber is stable from −80 to 275° F and resists oxygen, ozone, oil, and water. ● **Olson Industrial Products, Inc.,** 40 W. Water St., Wakefield, Mass.

▲ For more details circle **NED-111 F1** on enclosed inquiry slip ▲

BOTTLE WATER COOLER
cabinet is 12 in. square



Low-cost Model AlB bottle-type water cooler designed for areas where only a limited quantity of cool water is required has a vertical wrap-around cabinet only 12 in. square. It stands 36 in. high, not including bottle. Cabinet has Gracier Gray baked enamel finish, and is also available in white. Lift-off type drip receptor is color matched to the cabinet. ● **Kelvinator Water Coolers,** 265 N. Hamilton Rd., Columbus 13, Ohio.

▲ For more details circle **NED-112 F1** on enclosed inquiry slip ▲

INSTRUMENT HOUSINGS
meet many military specifications

Line of hermetically sealed instrument housings includes units made from aluminum, brass, and stainless steel with very thin walls to save weight. Glass-to-metal bond is resistant to thermal and mechanical shock. Housings meet many military vibration and environmental specifications. Delivery on housings conforming to MS 33639 of any length are made with minimum of lead time. Glass can be supplied either plain, heat treated, uncoated, or coated to JAN F-687 specs. Standard diameters are 7/8, 1, 1½, 2, 3, and 3⅛ in. ● **Micro Precision Corp.,** 55 Ninth St., Brooklyn 15, N. Y.

▲ For more details circle **NED-113 F1** on enclosed inquiry slip ▲

WATLOW'S

FIREROD

Outheats... outlasts... outperforms ***any other*** *cartridge heater!*

OUTHEATS—Up to 8-times the heat or same heat in ⅛ the space.

OUTLASTS—Better heat transfer gives higher operating temperatures with fewer burnouts.

OUTPERFORMS—Proven superior by lab and field tests.

Write for Bulletin 367.

WATLOW
ELECTRIC MANUFACTURING CO.
1374 Ferguson Ave.
St. Louis 14, Mo.

6110

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NEW ABRASIVE BELT SWING FRAME GRINDER

CURTIS **MODEL PB-A**

Adaptable to a wide variety of operations in large or small plants. can be used as a portable unit and brought to heavy work, or rigidly mounted for many grinding and polishing operations. 10 or 7½ hp. motor, heavy-duty contact wheel design, center post tracking mechanism, automatic belt tensioning, precision roller bearings. For additional information, write to: Curtis Machine Division, The Carborundum Company, Niagara Falls, New York.

CARBORUNDUM

▲ For more details circle **NED-116 F1** on enclosed inquiry slip ▲

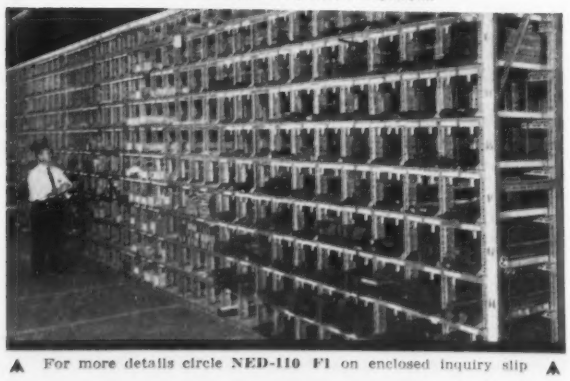
BUILD IT FASTER FOR LESS WITH

ACME STEEL SLOTTED ANGLE

It bolts together to build anything: racks, mezzanines, stairways, tables, carts, platforms, supports. Simply shear AIM Brand Slotted Angle lengths to size with an Acme Steel cutter, bolt, put to work. Exclusive hole-slot pattern permits unlimited design freedom. No drilling, sawing, welding. No figuring to fit pieces. Write for full-facts catalog.

ACME STEEL **IDEA LEADER IN FRAMING**

ACME STEEL COMPANY, Dept. NBD-61
135th St. & Perry Ave., Chicago 27, Ill.



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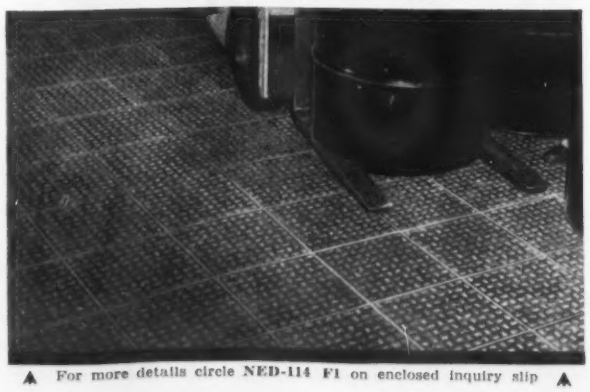
FOR FLOORS THAT HAVE TO TAKE IT

ACME STEEL FLOOR PLATE

Press Acme Steel Floor Plate into topping mix . . . level . . . squeegee-off excess topping and that's it. A floor of 74% steel for practically wear-proof durability, 26% concrete for skid-proofing. Low initial cost, long-term wearability, no-waste characteristics add up to the best floor at least cost. Write for facts.

ACME STEEL **IDEA LEADER IN FLOOR PLATE**

ACME STEEL COMPANY, Dept. NBF-61
135th St. & Perry Ave., Chicago 27, Ill.



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CUSTOMIZE STORAGE AT LOWEST COST WITH

ACME STEEL RACKS

A new, broadened line of AIM Brand standard modular components for heavy-duty mass storage now enables you to utilize every foot of space without sacrificing quick access. Exclusive Load Lock, 3" square columns and tapered keyhole slots assure maximum strength, rigidity and safety. Erect either all-purpose, drive-in or drive-thru layouts. No "special order" expense. Write for new complete-line catalog.

ACME STEEL **IDEA LEADER IN FRAMING**

ACME STEEL COMPANY, Dept. NBR-61
135th St. & Perry Ave., Chicago 27, Ill.

▲ For more details circle **NED-117 F1** on enclosed inquiry slip ▲

Di-acro

DEEP THROAT
O.B.I. PUNCH PRESS

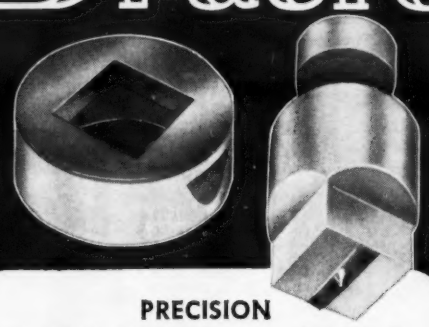
Deep 12 inch throat of new five-ton press allows working to the center of a 24-inch sheet. Easy to set up—ideal for women operators or inexperienced help. Can be set for single stroke cycling or continuous operation at 210 strokes per minute. Di-Acro punch presses are available in hand-operated, single station and turret models for short run production.

pronounced "die-ack-ro"

di-acro PRECISION METALWORKING EQUIPMENT
DI-ACRO CORPORATION
formerly O'Neil-Irwin Mfg. Co.
786 Eighth Ave. • Lake City, Minn.

Ask your Di-Acro distributor for details or write us.
For more details circle NED-118 F1 on enclosed inquiry slip

Di-acro



PRECISION
PUNCHES and DIES

For accurate hole location the centering point on the punch is ground absolutely concentric to the cutting edge—there's no "slop" even when several holes are punched in a blank. Precision made of high quality tool steel. Over 500 standard sizes in 12 standard styles available for immediate delivery from factory and distributor stocks.

pronounced "die-ack-ro"

di-acro PRECISION METALWORKING EQUIPMENT
DI-ACRO CORPORATION
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786 Eighth Ave. • Lake City, Minn.

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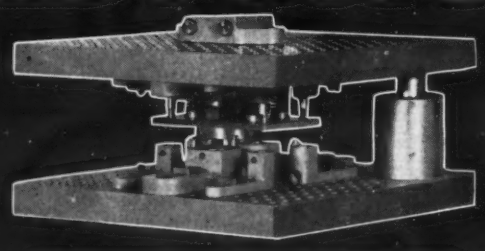
For more details circle NED-119 F1 on enclosed inquiry slip

Di-acro



ADJUSTABLE
PUNCHES and DIES

A time and money saving means of rapidly tooling for simultaneous punching of multiple holes in a variety of shapes and sizes. All tooling can be reused again and again. Available with round, oval, rectangular, square and special irregular shapes.

Ask your Di-Acro distributor for details or write us.

pronounced "die-ack-ro"

di-acro PRECISION METALWORKING EQUIPMENT
DI-ACRO CORPORATION
formerly O'Neil-Irwin Mfg. Co.
786 Eighth Ave. • Lake City, Minn.

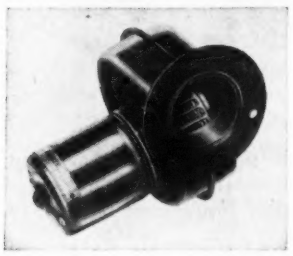
For more details circle NED-120 F1 on enclosed inquiry slip

WIRING DEVICE FITTINGS
explosion, dust, and weather proof

Various standard wiring devices, including tumbler switches, manual motor starters, pushbutton stations, selector switches, and pilot lights, are available in EW Series of Pylet wiring device fittings. Shielded controls and threaded construction protect the devices housed in the explosionproof, dust ignitionproof, and weather resistant fittings. All operating controls are front mounted. Padlocking in any position is possible. Bodies are tapped at top and bottom for ½ to 1-in. conduit. Back and both sides can be tapped up to 1 in. when specified. A drain and breather are optional. Each type is available in a variety of ratings. • **Pyle-National Co.**, 1334 N. Kostner Ave., Chicago 51, Ill.

For more details circle NED-121 F1 on enclosed inquiry slip

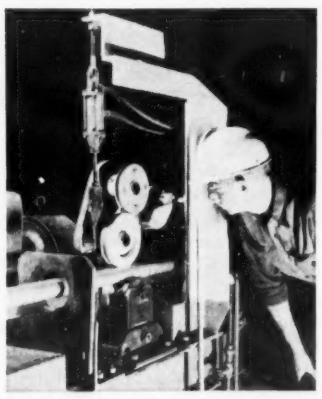
UNITIZED BLOWER
delivers 60 cfm at 3200 rpm



Unitized housing construction of this Type D motorized blower assures easy servicing and rigidity. The air delivery of this improved blower has been increased to 60 cfm at 3200 rpm for the single unit and 120 cfm for the double unit. Standard model has a two-pole 115-v ac motor, but other motors are available. • **Heinze Electric Co.**, 685 Lawrence St., Lowell, Mass.

For more details circle NED-122 F1 on enclosed inquiry slip

PIPE & TUBE PRINTER
offset type prints large characters



Installed over a production line, Model L-6015 rotary in-line offset printer can be friction or power driven at any line speeds to mark pipe, tubing, bar stock, and similar ferrous and nonferrous products. Trademarks, products identification data, or other wording are printed at desired intervals. Offset principle allows use of large characters on small product diameters. Unit requires about 2 x 1-ft of space for mounting. • **Jas. H. Matthews & Co.**, 3942 Forbes St., Pittsburgh 13, Pa.

For more details circle NED-123 F1 on enclosed inquiry slip

Di-acro

V-TYPE
PRESS BRAKE DIES
and ROL-FORM DIES

Choose from a complete selection of heat treated V type press brake dies designed to fit all makes of press brakes. Standard lengths to 12 feet. Investigate the new Rol-Form dies that eliminate work marking on highly polished or painted materials. Most standard cataloged sizes can be shipped from factory stock.

pronounced "die-ack-ro"

di-acro PRECISION METALWORKING EQUIPMENT
DI-ACRO CORPORATION
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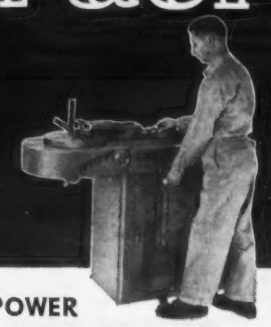
786 Eighth Ave. • Lake City, Minn.

Ask your Di-Acro distributor for details or write us.
For more details circle NED-124 F1 on enclosed inquiry slip

Di-acro



HYDRA-POWER
BENDER

Hydraulically operated for high speed. Accurately bends simple and complex shapes in a variety of materials. Bending capacity to 1" round mild steel bars and 1½" 16 gauge steel tubing. Delivered completely tooled or tooling can be done in your shop if you prefer. Hand operated benders with radius capacities from 2" to 12" are also available.

pronounced "die-ack-ro"

di-acro PRECISION METALWORKING EQUIPMENT
DI-ACRO CORPORATION
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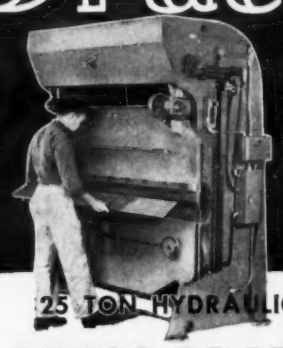
Di-acro



25 TON HYDRAULIC
PRESS BRAKE

Operator has complete control at all times. He pre-sets the stroke length and speed, and can "inch" or reverse the ram at any point. Dual speed operating cycle prevents whipping or kinking—increases production. Either 6 or 8 foot bed models. Also available in a 12 ton series, practical for sample work and both short and long run production. Ask your Di-Acro distributor for details or write us.

pronounced "die-ack-ro"

di-acro PRECISION METALWORKING EQUIPMENT
DI-ACRO CORPORATION
formerly O'Neil-Irwin Mfg. Co.
786 Eighth Ave. • Lake City, Minn.

For more details circle NED-126 F1 on enclosed inquiry slip

Di-acro

NEW 32 PAGE
di-acro
CATALOG
NO. 61

If you'd like complete information on Di-Acro machines or specific product knowledge—it's yours for the asking. Just clip this advertisement, check off the items in which you're interested and mail it to us.

- ☐ New 32 page Di-Acro Catalog No. 61
- ☐ Hydra-Power Bender
- ☐ 12 Ton Press Brake
- ☐ 25 Ton Press Brake
- ☐ Press Brake Dies
- ☐ Rol-Form Dies
- ☐ Punches and Dies

Name_____ Title_____
Company_____
Address_____

pronounced "die-ack-ro"

di-acro PRECISION METALWORKING EQUIPMENT
DI-ACRO CORPORATION
formerly O'Neil-Irwin Mfg. Co.
786 Eighth Ave. • Lake City, Minn.

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If you transfer, or dispense lubricants, get this

FREE ALEMITE POWER EQUIPMENT CATALOG!

Alemite has everything you need for fast, clean, economical lubricant handling. Discover how you can save materials and man-hours with these dependable, high-quality Alemite Industrial products: *air and electric drum pumps, mobile lubricators, control valves, reels and hose assemblies, airline accessories.*

Write for your free, illustrated Alemite Industrial Catalog right now!

Symbol of SW Excellence

ALEMITE DIVISION STEWART-WARNER CORPORATION

Dept. GG-61, 1850 Diversey Pkwy., Chicago 14, Ill.

For more details circle NED-128 F1 on enclosed inquiry slip

NEW PURGE ROTAMETERS

have stainless steel parts

Fig. 1853 has anodized aluminum body, stainless steel parts. The Fig. 1855 is all stainless.

SK Purge Rotameters for indicating and manually controlling small flows are competitively priced yet give these advantages—stainless steel internal parts... positive back flow check valve... effective flow control valve . . . removable tube feature. Available with differential regulator for automatic control of purge rate of flow. Also supplied in lucite and Kel F. Write for new Bulletin 18P.

Schutte and Koerting COMPANY
INSTRUMENT DIVISION
2227 STATE ROAD, CORNWELLS HEIGHTS, BUCKS COUNTY, PA.

For more details circle NED-129 F1 on enclosed inquiry slip

Spray on

Statnul

wipes off static... wipes out error!

Static electricity can cause false readings in panel and test instruments . . . especially with plastic-faced meters. Eliminate this problem for months with new Weston STATNUL. *Spray or apply* with saturated cloth—then wipe. An invisible shield drains away static. *Cleans and polishes* with every application . . . wards off abrasive dust.

Mail coupon today or see your Weston distributor.
Only $3.95! Check or money order enclosed ☐
Bill me. Purchase order enclosed ☐

Name _____
Address _____
City _____ Zone ____ State ____

WESTON Statnul a product of DAYSTROM, INCORPORATED
Weston Instruments Division, Dept. NE6, Newark 12, N. J.

For more details circle NED-130 F1 on enclosed inquiry slip

FOIL LABELS
self-sticking, insert types offered

All popular colors, shapes, and designs on gold or silver backgrounds are offered in the expanded line of custom designed foil labels. They are offered in both self-sticking and greaseproof insert types, with former adhering to paper, packaging film, glass, metal, plastics, ceramics, leather, or other clean, dry materials. These labels are available in rolls or flat sheets. Insert types mounted on greaseproof insert paper are designed to come into direct contact with the products. Thirty straight-edge sizes and eight die-cut shapes are available. • **Paramount Paper Products Co.**, 4402 N. 23rd St., Omaha 10, Nebr.

For more details circle NED-131 F1 on enclosed inquiry slip

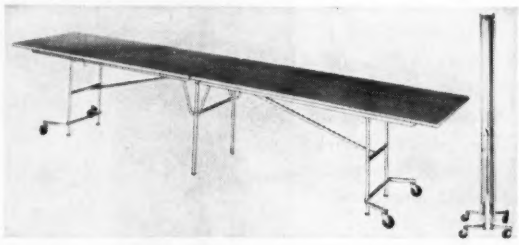
VISITOR'S GOGGLES
have large, clear acetate lens

Frame and spatula type temples of the G531 visitor's goggles are made of smoke gray acetate. Light in weight and inexpensive, they have a large, clear acetate lens with a clear nose pad for comfort without distortion. Temples can be imprinted with the company name. • **Pulmosan Safety Equipment Corp.**, 644 Pacific St., Brooklyn 17, N. Y.

For more details circle NED-132 F1 on enclosed inquiry slip

FOLDING ROLLAWAY TABLE
features stable leg construction

Lok-Steady leg construction of improved folding rollaway table assures stability when unfolded. Automatically operated rubber-tipped metal feet lift leg casters



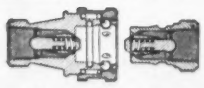
from the floor when the table is unfolded. Feet are retracted, and table rolls easily on casters when table is folded. Two torsion bars assist folding and unfolding. Tables are offered in 8, 10, and 12-ft lengths with plastic tops and bright-plated metal parts. Uniframe construction of the welded tublar steel frame, and not the working surface, absorbs all stresses. • **Smith System Mfg. Co.**, Tubular Products Div., 212 Ontario St. S. E., Minneapolis 14, Minn.

For more details circle NED-133 F1 on enclosed inquiry slip

HANSEN

SERIES HK® QUICK-CONNECTIVE
TWO-WAY SHUT-OFF COUPLING

QUICK FLUID LINE CONNECTION OR DISCONNECTION
WITH
INSTANT AUTOMATIC FLOW OR SHUT-OFF



Instantly shuts off both sides of line...prevents loss of liquid, gas or pressure

During instant of disconnection, "O" Ring in Socket provides tight seal—eliminates nuisance of leakage or spillage. In reverse, when Coupling is connected, "O" Ring seals Coupling *before* valves in Socket and Plug release flow from both sides of line.

Furnished in brass or steel with female pipe thread connections from 1/8" to 1 1/2" inclusive—also up to 1" in stainless steel.

Write for the Hansen Catalog

a ready reference when you want information on couplings in a hurry. Lists complete range of sizes and types of Hansen Two-Way Shut-Off, One-Way Shut-Off, and Straight Through Couplings.

Representatives in Principal Cities ... See Yellow Pages

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

For more details circle NED-134 F1 on enclosed inquiry slip

NEW REVOLUTIONARY DESIGN FOR LOW COST MACHINE MOUNTINGS

FABCEL Pads
Patent Applied For

Unsurpassed performance and endurance! Installation is easy! Just cut to shape and size you desire, from standard 18" x 18" squares; slip into position and then check the difference!

No bolts, cement or screws. FABCEL'S engineered, recessed suction cells lock machine to floor. FABCEL Pads also reduce noise and job rejects.

Write for new catalog

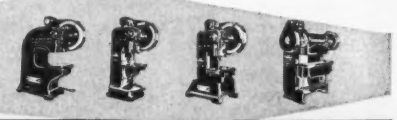
FABREEKA PRODUCTS COMPANY, INC.
1195 Adams Street, Boston 24, Mass.
Representatives in Principal Cities
In Canada: International Equipment Co., Ltd., Montreal, P.Q.
- made by the makers of Fabreeka -

For more details circle NED-135 F1 on enclosed inquiry slip

High Output with ROUSSELLE
DOUBLE-CRANK PRESSES

SPEED UP PRODUCTION with these versatile 40-ton presses. Large bed and ram areas make them ideally suited to handle wide rolls or sheets . . . do multiple punching, steel-rule die work and other high output operations. For rapid shockless starting and stopping, presses can be equipped with electrically controlled "Econo-Air" friction clutch . . . Ask for new catalog.

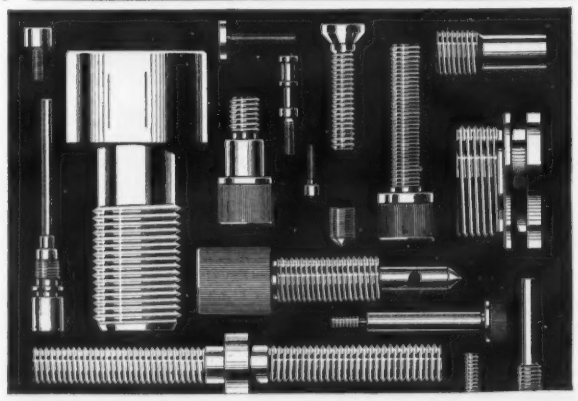
Choice of over 30 models and types in 5 to 60-ton sizes



SERVICE MACHINE CO.
Mfrs. of Rousselle Presses
2310 WEST 78TH ST. • CHICAGO 20, ILL.

Rousselle Presses are sold exclusively through Leading Machinery Dealers.

For more details circle NED-136 F1 on enclosed inquiry slip



What SPS Offers You in Socket-Type Specials

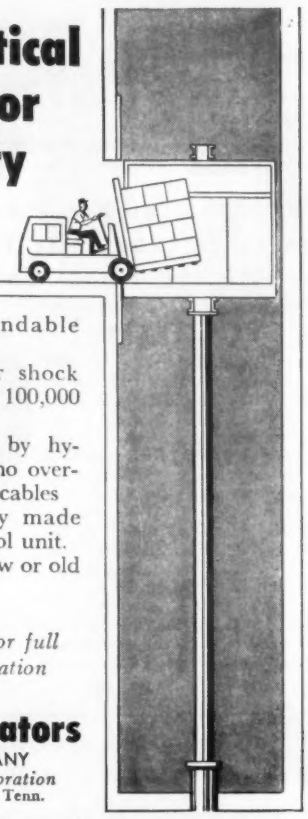
- **Service:** Prompt quotations, strict quality control, on-time delivery... plus design consultation service through a nationwide force of field fastener engineers.
- **Experience:** No one has invested more in fastener research and development—or pioneered more fastening breakthroughs—than SPS.
- **Design confirmation:** We give you more than just an accurate quote; we also analyze your prints carefully, backstop you on design at all times.
- **Facilities:** Second to none in the industry . . . equipped to handle any specials requirement, any quantity.

See your authorized SPS distributor or write us direct

INDUSTRIAL FASTENER Division SPS
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-137 F1 on enclosed inquiry slip

Most practical elevator for heavy-duty service



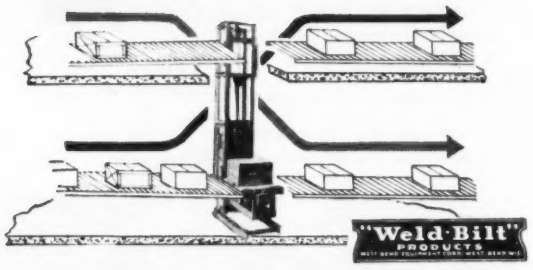
- Economical, dependable hydraulic operation
- Ruggedly built for shock loading . . . 1000 to 100,000 lb. capacities
- Elevator supported by hydraulic system . . . no overhead machinery, no cables
- Adjustments quickly made on one central control unit.
- Easily installed in new or old buildings

Rotary® *Write for full information*

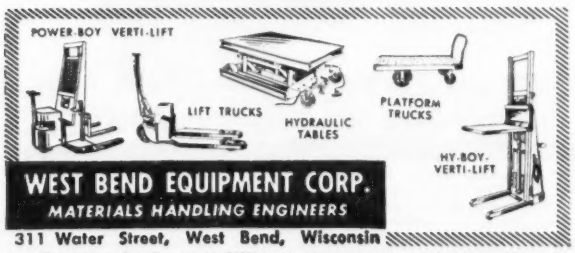
Oildraulic® Elevators
ROTARY LIFT COMPANY
Division of Dover Corporation
1025 Kentucky, Memphis 2, Tenn.
Chatham, Ontario

▲ For more details circle NED-138 F1 on enclosed inquiry slip ▲

DOUBLE your floor-to-floor Traffic-Handling Speed with Weld-Bilt "Criss-Cross" Automatic Lift Unit

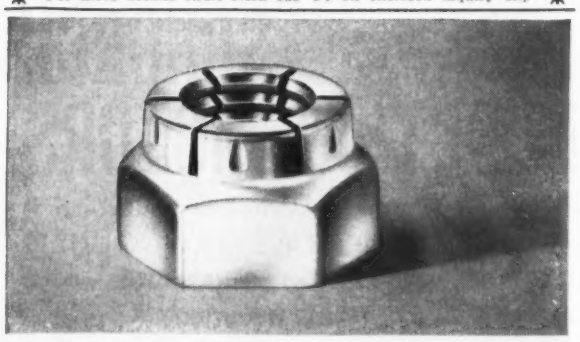


This *single* Weld-Bilt Automatic Conveyor-Lift Elevator — plus two powered Feed Conveyors and two powered Discharge Conveyors — handles, automatically, a greater capacity than two ordinary freight elevators . . . and at much lower cost! Automatic "memory" controls do all the work. Operators merely keep conveyors filled at loading stages. Easily adapted to completely automatic conveyorized feed of unit loads with synchronized loading and discharge at each floor. Get the whole story now. Write for bulletin E-557.



WEST BEND EQUIPMENT CORP.
MATERIALS HANDLING ENGINEERS
311 Water Street, West Bend, Wisconsin

▲ For more details circle NED-139 F1 on enclosed inquiry slip ▲



Self-locking, vibration-proof FLEXLOC serves as locknut or stopnut

- Locks *without seating*—stays put wherever wrenching stops
- Holds tight despite impact, shock, vibration
- Simplifies design because it is one-piece—no auxiliary locking devices needed
- Can be readily removed, repeatedly reused
- Sizes #0-80 through 2"-4½
- In alloy steel, stainless steel, aluminum, brass

See your authorized industrial distributor. Or write SPS —manufacturer of precision threaded fasteners and allied products in many metals.

INDUSTRIAL FASTENER Division SPS
JENKINTOWN 24, PENNSYLVANIA

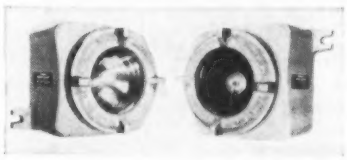
▲ For more details circle NED-140 F1 on enclosed inquiry slip ▲

PANEL METER
has clear-view open plastic front

Four popular sizes in M Series panel instruments include scale lengths of 2.5, 3.34, 4.5, and 7 in. The full-open dial behind the crystal-clear plastic front assures easy reading. Features include contrasting black molded case; three-way terminals for push-on, solder, or wrap-around wiring; self-shielded construction; and excellent damping and response characteristics. ● **Triplett Electrical Instrument Co.**, 286 Harmon Rd., Bluffton, Ohio.

▲ For more details circle NED-141 F1 on enclosed inquiry slip ▲

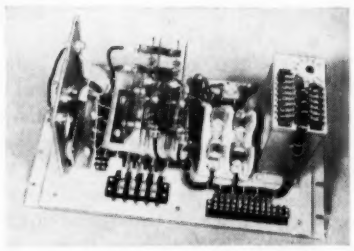
ILLEGAL ENTRY DETECTOR
infrared unit usable day or night



Invisible electronic curtain security for plants and property is provided by the Tattleguard infrared illegal entry detection system. It scans up to 350 ft and operates day or night, indoors or outdoors. Transmitter and receiver are its two basic units, between which an invisible infrared beam passes. Interruption of this beam by humans, animals, vehicles, or other objects actuates a relay in the receiver to operate auxiliary alarm equipment. Transistorized system is explosionproof, fungus resistant, and functions from −40 to 140° F in 100 per cent humidity. Operation is on 12 v dc. ● **Alnor Instrument Co.**, 420 N. LaSalle St., Chicago 10, Ill.

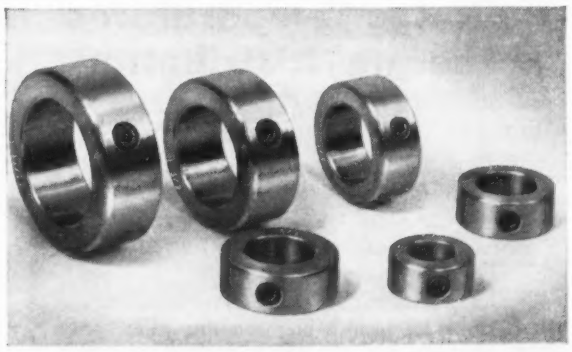
▲ For more details circle NED-142 F1 on enclosed inquiry slip ▲

POWER AMPLIFIER
offered with ac or dc output



Voltage and current regulators for alternating and direct current generators, speed controls for direct current motor drives, power supply regulators, and saturable core reactor regulators for furnace controls are applications for this line of power Bistable amplifiers. They are made in 1000 and 3000-w ranges with either alternating or direct current output. In their simplest form, the on-off devices switch rated power levels from 0.05-microwatt signal sources. Response time is 22 milliseconds. All units have surge suppressors to restrict line voltage spikes. Alternating current output is 110 v and direct current output is 95 v. Line supply is 115 v, 60 cycles ac. ● **Norbatrol Electronics Corp.**, 356 Collins Ave., Pittsburgh 6, Pa.

▲ For more details circle NED-143 F1 on enclosed inquiry slip ▲



Simplify your design and purchasing with HALLOWELL standard steel collars

- 45 stock sizes—1/16 to 3 inch bore
- Immediate delivery from local dealer stocks
- Precision machined from first quality bar stock; perfectly balanced
- Supplied with UNBRAKO knurled cup point socket set screws—famous for their locking reliability
- Every collar size marked for quick identification

For more information, see your authorized industrial distributor. Or write SPS—manufacturer of precision threaded industrial fasteners.

INDUSTRIAL FASTENER Division SPS
JENKINTOWN 24, PA.

▲ For more details circle NED-144 F1 on enclosed inquiry slip ▲

THE HAMILTON TOOL COMPANY
901 HANOVER STREET HAMILTON, OHIO

▲ For more details circle NED-145 F1 on enclosed inquiry slip ▲

CAR PULLER

MORE QUALITY FEATURES

- Greater safety factor for personnel . . . no rope to snub with wire rope car puller.
- Save time, labor and money . . . one man can quickly and easily spot several fully loaded box cars.
- A type and size to fit your exact requirements.
- Rugged construction for trouble free service.
- Stocked for immediate delivery.

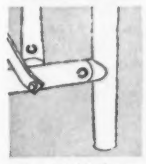
WRITE FOR BULLETIN 753
STANDARD PRODUCTS DIVISION
STEPHENS-ADAMSON MFG. CO.
12 RIDGEWAY AVENUE • AURORA, ILLINOIS
PLANTS LOCATED IN: LOS ANGELES, CALIFORNIA CLARKSDALE, MISSISSIPPI • BELLEVILLE, ONTARIO

▲ For more details circle NED-146 F1 on enclosed inquiry slip ▲

Use it for laminating... SEL-LOK spring pin

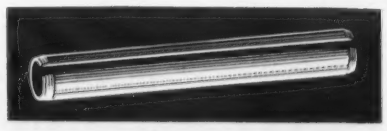
Tool handle

Lifts for women's shoes


Metal table legs

- Swift fastening—just drill and drive
- Secure locking—won't work loose despite shock or vibration
- Eliminates costly tapping, reaming, peening, milling
- Can be reused repeatedly
- 101 uses—as keys, cotter pins, axles, hinge pins, wrist pins, stop pins, pivots, etc.

SEL-LOK spring pins are available in carbon and corrosion-resistant steel (from 1/16 x 3/16 through ½ x 4 in.) and beryllium copper (1/16 x 3/16 through ¼ x 3½ in.). See your SPS distributor or write for Bulletin 2670.



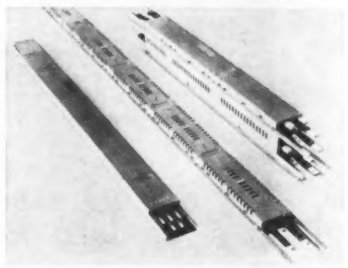
INDUSTRIAL FASTENER Division SPS
JENKINTOWN 24, PENNSYLVANIA

▲ For more details circle NED-147 F1 on enclosed inquiry slip ▲

Portage Double-Quick, Inc.
1043 SWEITZER AVENUE • PHONE PORTAGE 2-7425 • AKRON, OHIO

▲ For more details circle **NED-148 F1** on enclosed inquiry slip ▲

60 TO 4000-AMP BUSWAYS
feeder and plug-in types offered



Polyair insulation featured in improved Uni-Bus feeder and plug-in busways provides high insulation efficiency, maximum inherent safety, low weight, and maximum resistance to damage from electrical stresses or improper handling. The various types of low impedance bus bar systems are designed for electrical and mechanical interchangeability. Units with ratings from 60 to 4000 amp have standardized plug-in connections featuring a mechanical safety interlock. Busways use flame resistant polyster glass fiber supports and have a 7/8-in. ground clearance. A weight comparison shows that 10-ft, three-pole, aluminum bar sections weigh 55 lb for a 600-amp plug-in unit and 150 lb for a 2000-amp feeder unit. • **Electric Distribution Products, Inc.**, 2200 31st St. S.W., Allentown, Pa.

▲ For more details circle **NED-151 F1** on enclosed inquiry slip ▲

HOBBS HOUR METERS

GIVE THE REAL FACTS OF INDUSTRIAL TOOL USE AND MAINTENANCE

Hobbs Industrial Hour Meters provide continuous supervision of the running time of industrial machines . . . eliminating errors and deficiencies for maximum production. These elapsed time indicators tell when servicing is due . . . indicate the costs of running hour for both the machine and occupied space.

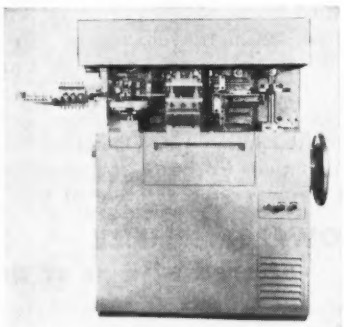
Hobbs Industrial Hour Meters make it easy to determine the life and repair costs per running hour of industrial machines . . . the actual running time of leased equipment and equipment to be sold. They set up a sound basis for service contracts. For complete information

WRITE FOR CATALOG 600
Distributors in Principal Cities

John W. Hobbs Corporation
A DIVISION OF STEWART-WARNER CORPORATION
2055 YALE BLVD. SPRINGFIELD, ILLINOIS

▲ For more details circle **NED-154 F1** on enclosed inquiry slip ▲

WIRE & STRIP FORMER
operates at 100 to 500 strokes per minute after low set-up time



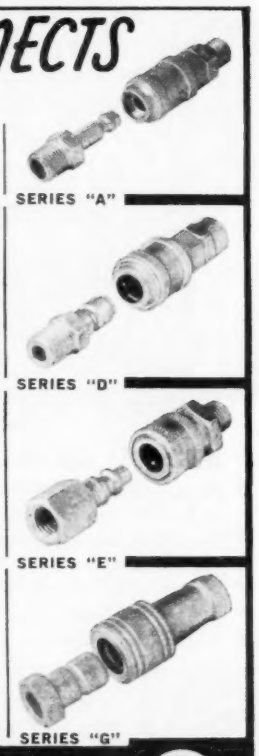
High speed precision production of small wire and strip components is possible with low set-up time using the V-80 vertical Verti-Slide forming machine. Modular design of the Verti-Slide subassemblies allows adding welding, tapping, swaging, thread rolling, and other secondary operations automatically, either within or parallel to the primary forming cycle. Maximum stock capacities are 3/4-in. strip width, 0.032-in. strip thickness, and 1/16-in. wire diameter.

Production rates are from 100 to 500 strokes per minute with standard rise cams, and 100 to 350 strokes per minute with maximum rise cams, or feed lengths near the maximum of 3 in. for strip and 5 in. for wire. An electrical brake, used in jogging for quick set-ups, is standard. Timing disc calibrated for 360 degrees, either 90 or 180-degree feed, a 14-roll strip and wire straightener, cam-operated press with shut height of 4 in., and a handwheel used for setup are other features. • **Torrington Mfg. Co.**, Machine Div., Torrington, Conn.

▲ For more details circle **NED-152 F1** on enclosed inquiry slip ▲

PSC DISCONNECTS

AIR GASES FLUIDS



for fast, easy connecting and disconnecting of **AIR — GAS** and **FLUID LINES** for industrial and aircraft uses.

PUSHOMATIC one-hand operation simplifies plugging in pneumatic tools and equipment. Connect or disconnect instantly.

Automatic locking action forms a positive leak-proof connection, prevents loss of media. Large flow chambers assure maximum flow—Buna N seals.

SERIES "A" — small — compact — automatic one-hand operation — positive sealing. 4 end types—1/8" through 3/4" NPT. Connected working pressures to 6000 PSI.

SERIES "D"—INTERCHANGEABLE with popular makes. Automatic leak-proof locking action. Meets Military Specs MIL-C-4109A.

SERIES "E"—straight-through type permits full unrestricted flow. Ideal for fast transfer of media. 1/4" through 3". Connected working pressures to 4500 PSI.

SERIES "G"—double shut-off stops the flow from both ends when disconnected. Automatic one-hand operation. Ball bearing construction. Maximum flow.

ALL DISCONNECTS shipped from stock.

SPECIAL DISCONNECTS made up to your particular requirements.

Send for **BULLETIN 1475**, which lists types, sizes, applications, and engineering data.

PERFECTING SERVICE CO.
332 Atando Ave. Charlotte 6, N. C.
Baltimore · Buffalo · Chicago · Cleveland · Camden · Los Angeles · New York · Providence · Montreal · Toronto, Canada

▲ For more details circle **NED-149 F1** on enclosed inquiry slip ▲

IMPROVED
G-R Sound-Level Meter
with NEW CERAMIC Microphone

- Improved microphone has smooth, wide-range response; stable capacitance; high sensitivity; not damaged at 100% relative humidity or 200° F. temperatures
- Frequency response smooth from 20 to 8,000 cycles
- A. B. C. Weighting Networks conform to new ASA Specifications (ASA S-1.4-1961)
- Wide sound-level range of 24 db to 150 db
- Built-in calibration check
- Output jack for low-distortion output for frequency analyzers, recorders and scopes
- Battery-operated; weighs only 7½ pounds

Type 1551-C Sound-Level Meter: $415

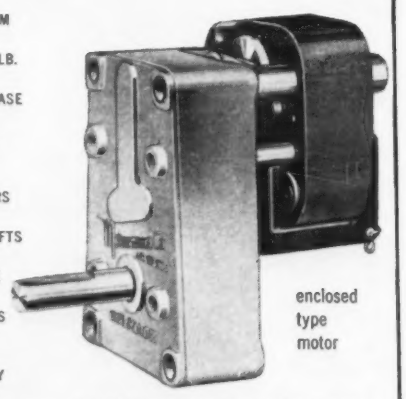
Write for Complete Data

GENERAL RADIO COMPANY
WEST CONCORD, MASSACHUSETTS
Broad Avenue at Linden, Ridgefield, N. J. **NEW YORK AREA** 1000 N. Seward St. **LOS ANGELES 38** 8055 13th St., Silver Spring, Md. **WASHINGTON, D. C.** 1150 York Road, Abington, Pa. **PHILADELPHIA** 1186 Los Altos Ave., Los Altos, Calif. **SAN FRANCISCO** 6605 W. North Ave., Oak Park, Ill. **CHICAGO** In **CANADA:** 99 Floral Parkway. **TORONTO 15**

▲ For more details circle **NED-155 F1** on enclosed inquiry slip ▲

GEARMOTORS 6 Basic Sizes

- SPEED UP TO 200 RPM
- POWER UP TO 40 IN. LB.
- OPEN OR ENCLOSED CASE
- CONTINUOUS OR INTERMITTENT
- MACHINE CUT GEARS
- FINISH GROUND SHAFTS
- MILLIONS IN USE
- SPECIAL FEATURES AVAILABLE
- PROMPT DELIVERY
- SAMPLES AT ONCE
- ASK FOR OUR LITERATURE



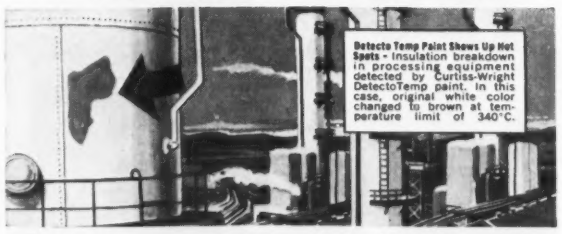
enclosed type motor

MILLIONS OF MOTORESEARCH GEARMOTORS NOW IN USE! Motoresearch also designs and produces high frequency motors, generators, rectifier type power supplies and other Special Electrical Equipment. We invite your inquiries.

THE MotoRESEARCH MANUFACTURING COMPANY, INC.
1600 JUNCTION AVENUE
RACINE, WISCONSIN
Designers and Manufacturers of
special electrical equipment

▲ For more details circle **NED-150 F1** on enclosed inquiry slip ▲

Color-Changing Paint Indicates Temperatures — Thermal Distribution



Detectotemps are temperature indicating paints which change from one color to a totally different color when certain temperatures are reached. They are used in hundreds of operations from chemical processing, petroleum refining to welding, forging, heat treating and monitoring surface temperatures to improve quality, reduce costs or increase safety. Detecto Temp has the unique ability to indicate local temperature variations. This is impossible to do with thermocouples or any other presently available product. Colorful folder available.

DETECTOTEMP
Paint available in 4 oz. and 1 lb. metal cans. 36 types cover temperature range from 40°C to 1350°C

Thermochrom
Crayons convenient for testing surface temperatures of small areas. 18 crayons cover temperature range from 65°C to 670°C.

CURTISS WRIGHT
Princeton Division • Princeton, New Jersey
Also available through AIRCO Distributors

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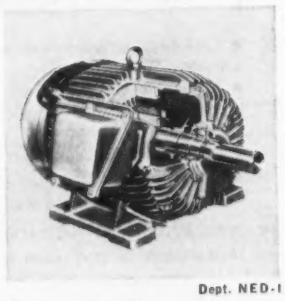
Increase production with SCHORCH INDUCTION MOTORS

3-Phase Horizontal • Completely Enclosed • Fan-Cooled • SUPERIOR STARTING CHARACTERISTICS. Rerated NEMA Frames • TOP-RUNNING PERFORMANCE . . to class B temperatures . . . • LOW MAINTENANCE . . . epoxy insulation. • Also available: Open Drip-Proof with same characteristics. • Complete program. • National sales and service. For full information, write:



Dept. NED-1

Georg von Opel Corp.
15 William St., New York 5, N. Y.
BO. 9-5690/1

▲ For more details circle **NED-156 F1** on enclosed inquiry slip ▲

Now, with more than fifty models in the Dustkop line—plus efficient accessory items—the odds are that a standard unit will solve your problem. Dustkop units solve other problems too. They're easier to install, save space and money and are virtually maintenance-free!

how to select a dust collector

This new brochure includes all basic information needed to select the right dust or mist collector for grinding, buffing, polishing and other types of service. Write for your copy. No obligation.

AGET Manufacturing Company
1396 Church St., Adrian, Michigan
DUSTKOP STOPS DUST

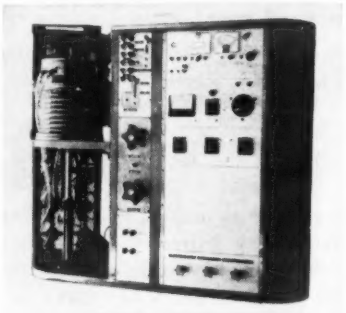
▲ For more details circle NED-157 F1 on enclosed inquiry slip ▲

HEAVY DUTY PALLET BOX
has sliding gate at one end

Welded steel pallet box designed for stacking features an expanded metal side for identifying contents and a sliding gate on the opposite end to permit feeding of contents directly into hoppers or machine feed mechanisms. Units shown measure 48 x 36 x 30 in. and have 4-in. skid-type legs. Legs "nest" on the top support of unit underneath. Special sizes and shapes are available. • **Hugh J. Baker & Co.**, Industrial Div., Dept. PB-203, 602 W. McCarty St., Indianapolis 6, Ind.

▲ For more details circle NED-160 F1 on enclosed inquiry slip ▲

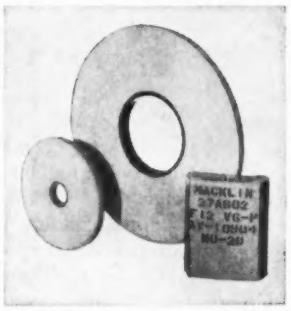
VACUUM FURNACE
operates continuously at 2500° C



Heated internally by six pairs of tungsten strips suspended by water - cooled low thermal loss feed-throughs, this cold jacket vacuum furnace has a 3½-in. diameter, 5-in. high hot zone. Heaters are surrounded by concentric tungsten and molybdenum radiation baffles; the entire assembly is placed in a water-cooled vacuum jacket. Furnace has been operated continuously at 2500° C (4500° F). A 40-kw saturable core reactor control makes available sufficient power to sinter, melt, and anneal high temperature metals and degas metals and ceramics. • **F. J. Cooke, Inc.**, 145 Water St., South Norwalk, Conn.

▲ For more details circle NED-161 F1 on enclosed inquiry slip ▲

GRINDING WHEEL
for heavy feeds on various metals



Cool operation, fast cutting action, and form retention are features of the "27" aluminum oxide grinding wheel. It can be used for heavy feeds on such materials as high speed, alloy and low carbon steels, and boiler plate. Applications include crush form and surface grinding. • **Macklin Co.**, 2914 Wildwood Ave., Jackson, Mich.

▲ For more details circle NED-162 F1 on enclosed inquiry slip ▲

INDUSTRIAL INKS To Mark Anything!

Whatever the substance, Phillips has an ink to mark it permanently and legibly—or can make one. Marking experts insist on "Clear Print" Wood Block Stamp Pads and Opaque Inks. They get clear, sharp, fast-drying impressions. Also inks for brush, pen, stencil or machine application available in a variety of colors and quantity containers.

★ Quick Laboratory Service On Your Problem Markings

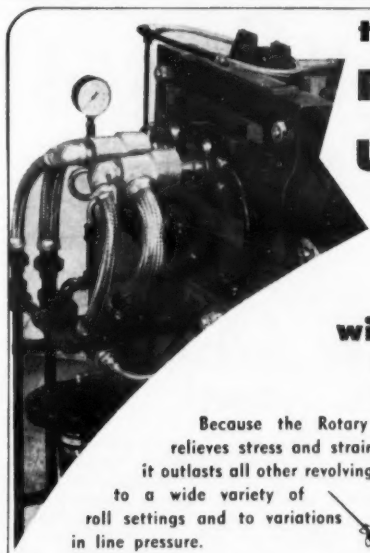
★ To Permanently Mark . . . Metals, Plastics, Glass, Wood, Paper, Leather, Ceramics—glazed, varnished or lacquered surfaces and virtually every other known material.

For Complete Information Phone BAker 5-8201 or write:

PHILLIPS PROCESS CO. INC.
192 MILL STREET
ROCHESTER, NEW YORK

▲ For more details circle NED-164 F1 on enclosed inquiry slip ▲

the ROTARY UNION* the rotating joint with built-in flexibility



Because the Rotary Union automatically relieves stress and strain on its sealing parts, it outlasts all other revolving joints. It also adjusts to a wide variety of roll settings and to variations in line pressure.

The Rotary Union gives you extremely long sealing service without mechanical maintenance of any kind. Write for Bulletin 700 for full information.

*Trade Name—Patented

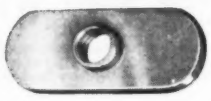
"WHERE *Good Connections* COUNT"
PERFECTING SERVICE COMPANY, 332 Atando Ave., Charlotte, N.C.
Baltimore—Buffalo—Camden, N. J.—Chicago—Cleveland—Los Angeles
New York—Providence—Montreal—Toronto

▲ For more details circle NED-165 F1 on enclosed inquiry slip ▲

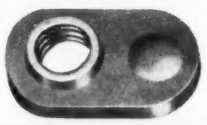
OHIO WELD NUTS

Patent 2908310

RN NUT — for projection welding. Ideal where tension is against the weld.



ND NUT — for spotwelding. Used where large nut is needed for bridging two sheets or for extra strength.



PN NUT — for projection welding. Ideal in confined areas, on heavier gages, or on curved surfaces.

Patent Applied For

XN NUT—for spotwelding with recessed target electrode area. Full range of sizes can be welded with 20 KVA Welder.

Samples and information furnished upon request

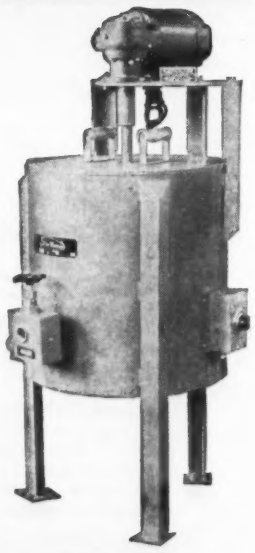
The WELD FASTENERS Primary Fastener in Fastener Assemblies

THE OHIO NUT AND BOLT CO.
14 FIRST STREET BEREA, OHIO

▲ For more details circle NED-158 F1 on enclosed inquiry slip ▲

Sta-Warm ELECTRICALLY HEATED CYLINDRICAL TANKS
for melting and dipping compounds

• Available in wide range of capacities and voltages and with a variety of useful accessories. All designed to fit your production specifications. Sta-Warm Melting Tanks are engineered with or without agitation to supply properly melted compounds economically and efficiently.



52MBW popular 15-gallon tank equipped with power agitator and heated gate valve.

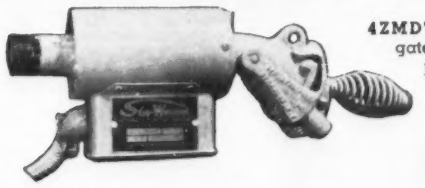
WANT A CATALOG? WRITE TODAY.

"If You Can Wrap a String Around It, Sta-Warm Can Heat It for You."

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO
A Subsidiary of Wakefield Corporation

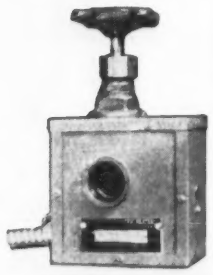
▲ For more details circle NED-159 F1 on enclosed inquiry slip ▲

Sta-Warm ELECTRICALLY HEATED VALVES
for dispensing a multitude of compounds



4ZMDT molasses-type gate valve for dispensing large quantities at each opening.

• A complete line of heated valves, including needle type, for dispensing small amounts where you want it. All but wheel type employ quick open and close feature. Temperature and voltage requirements designed to your specifications. Available in variety of sizes and shapes. Iron, brass, stainless.



4ZT—1" wheel-type gate valve with loose leads. Preset temperature control.

WANT A CATALOG? WRITE TODAY.

"If You Can Wrap a String Around It, Sta-Warm Can Heat It for You."

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO
A Subsidiary of Wakefield Corporation

▲ For more details circle NED-163 F1 on enclosed inquiry slip ▲

Sta-Warm ELECTRICALLY HEATED RECTANGULAR TANKS
FOR . . . MELTING • DIPPING • CLEANING • DEGREASING

• Custom-built to your specifications. Available in any practical size, shape, voltage or temperature range you require. Famous "Sta-Warm Method" uniformly heats sidewalls and bottom to insure proper temperature control of difficult-to-handle compounds. Engineered to close temperature tolerances.

WANT A CATALOG? WRITE TODAY.

VR44W TWO-COMPARTMENT DIPPING TANK-44-gallon capacity with heated gate valve drain.

"If You Can Wrap a String Around It, Sta-Warm Can Heat It for You."

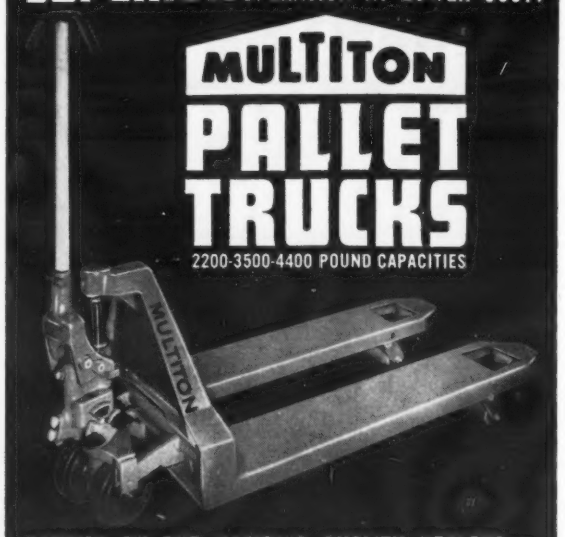
Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO
A Subsidiary of WAKEFIELD CORPORATION

▲ For more details circle NED-166 F1 on enclosed inquiry slip ▲

SUPERIOR OPERATION AT LOWER COST!

MULTITON PALLET TRUCKS

2200-3500-4400 POUND CAPACITIES



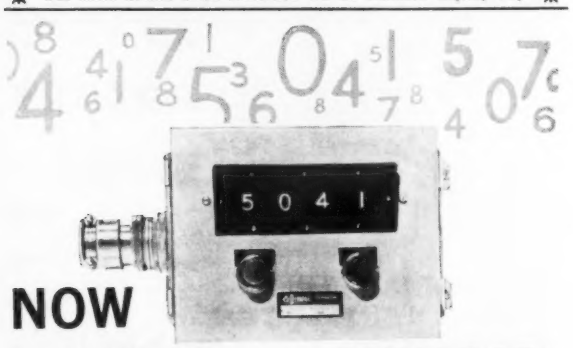
CARRIED BY THE NATION'S QUALITY DEALERS — BEST EQUIPPED TO GIVE YOU EFFICIENT SERVICE.

- ONE-PIECE LEAKPROOF HYDRAULIC UNIT
- 4½" LIFT IN THREE STROKES
- MINIMUM MAINTENANCE

Precision built to meet your most exacting requirements. Full six-month warranty.

STOKVIS MULTITON CORP. 18 SECATOAG AVENUE PORT WASHINGTON, NEW YORK

For more details circle NED-168 F1 on enclosed inquiry slip



NOW

Louis Allis offers you **DYNAPAR*** Digital Control Systems!

Besides motors, drives, and controls, Louis Allis now furnishes DYNAPAR Digital Control to give visual readout and process control signals for any production process. The highly accurate digital systems are ideal for high-speed counting; measuring speed and draw; automatic positioning and cutting-to-length; totalizing; timing; controlling, etc.

DYNAPAR digital devices do not drift. There's no need for constant calibration and adjustment. Solid-state transistor circuits provide long-life operation without maintenance. Luminous direct readouts are easy to read.

Up output, cut waste. Automate with DYNAPAR Digital Control. Call your Louis Allis District Office, or write to The Louis Allis Co. 436 E. Stewart St., Milwaukee 1, Wis.

LOUIS ALLIS

*Dynapar Corporation is the electronic subsidiary of The Louis Allis Co.

For more details circle NED-169 F1 on enclosed inquiry slip

INTRODUCING Bendix Uni-son®

New Unitized Sonic Energy Cleaner

compact—reliable—new low price

For superior cleaning on a sustained production basis, Bendix Uni-son utilizes a solid state generator, fixed tuning, and Omnimite®, the guaranteed-for-life magnetostrictive transducer. Flexibility, full warranty, compact size, and low price make Uni-son the most economical sonic cleaner to own, operate, and maintain.

And it's from Bendix—pioneer and largest producer of sonic energy cleaning equipment. That's your best assurance of all-around quality and dependability.

SONIC ENERGY CLEANING

☐ Please send complete details on Bendix Uni-son.

☐ Please send details on complete Bendix cleaning systems.

Pioneer-Central Division
The Bendix Corporation, Davenport, Iowa

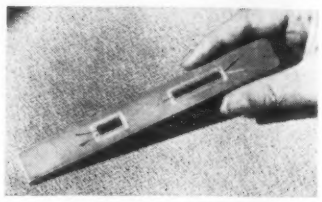
Name

Address

City Zone State

For more details circle NED-170 F1 on enclosed inquiry slip

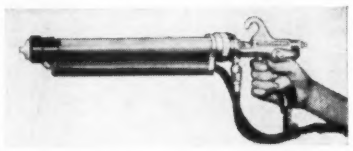
WELDABLE STRAIN GAGES
stable from cryogenic to 750° F



Electrically stable from cryogenic through 750° F temperatures, weldable SR-4 strain gages are small, operate over a wide temperature range, and have high linearity. They are usable for such applications as stress and pressure testing of nuclear reactor power loops, liquefied gas pressure vessels and systems, aircraft and missile components, and heavy machinery testing. They incorporate SR-4 foil gages bonded to an 0.005-in. thick stainless steel shim. A phenolic-bonded constantan foil type handles temperatures to 500° F, while a ceramic-bonded Nichrome V foil gage handles 750° F continuously or up to 1000° F intermittently. • **Baldwin-Lima-Hamilton Corp.**, Electronics & Instrumentation Div., 42 Fourth Ave., Waltham 54, Mass.

For more details circle NED-171 F1 on enclosed inquiry slip

ELECTROSTATIC SPRAY GUN
uses air to direct particles



The Static-Rod hand electrostatic spray gun uses compressed air to help atomize and direct paint particles into recessed areas. Amount of compressed air can be varied. Hand gun produces a standard spray pattern. A paint-saving feature is the pushbutton fan adjustment which permits the operator to change from a fan spray pattern to a cone and back again with his gun hand. Gun weighs 2 lb 6 oz and is easily handled with one hand. • **Eclipse Air Brush Co.**, 390 Park Ave., Newark 7, N. J.

For more details circle NED-172 F1 on enclosed inquiry slip

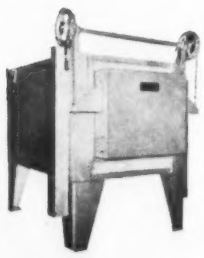
TIME DELAY RELAY
solid state type has variable range

Moderately priced G-59704 solid state time delay relay consists of a solid state time delay network which drives a slave relay. Utilizing a commercial relay and germanium semiconductors, it is designed for uses where shock and vibration requirements are not critical. Standard variable time delay range is 25 to 500 milliseconds. Longer delays can be specified. Timing accuracy is ±10 per cent at fixed voltage. Relay is available in 28-v dc, 12-v dc, and alternating current inputs. • **Guardian Electric Mfg. Co. of California, Inc.**, 5575 Camille Ave., Culver City, Calif.

For more details circle NED-173 F1 on enclosed inquiry slip

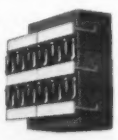
SOLVE HEATING PROBLEMS FOR CHEMICAL PROCESSING
DRYING • ACTIVATING

ONLY TRENT BOX TYPE FURNACES offer these performance advantages:



- Clean, Uniform Heat to 1260°C.
- Operate from Standard Voltages
- Standard Switches and Controls
- Require No Transformers
- TRENT "Folded and Formed" Electric Heating Element

Continuous "Folded and Formed" ribbon element faces the work chamber—gives up to 4 times the radiating area per given sections than ordinary types! Discuss your heating problems with TRENT engineers.



WRITE FOR BULLETIN 75-TD

ELECTRICALLY HEATED INDUSTRIAL EQUIPMENT

TRENT 251 Leverington Ave. Phila. 27, Pa. • In Canada: Pioneer Electric Eastern Ltd., Toronto

For more details circle NED-174 F1 on enclosed inquiry slip

DRAKE Indicator Light Assemblies for SLIDE BASE LAMPS

Here are three styles of Assemblies designed for data processing equipment and other electronic instrumentation where higher voltages are involved. Relatively inexpensive, they house telephone slide base lamps which offer the best selection in the 24 to 55 volt range, varying from low drain lamps of 17 milliamperes to high brightness lamps of 5.2 watts.

Nos. 135 and 137 are available with a selection of glass lenses in all colors, with deluxe numerals or letters filled with black, fired enamel. No. 136 is supplied with red, amber or white nylon cap which protrudes 13/16" from the panel. All units mount in 15/32" or 1/2" dia. hole, on 23/32" centers. Lamps are easily removed from front of panel.

★ SEND FOR DATA SHEET 593A WITH FULL DETAILS AND SPECIFICATIONS

DRAKE

DRAKE MANUFACTURING COMPANY
4624 N. OLCOTT AVENUE • CHICAGO 31, ILLINOIS

MINIATURE LIGHTING SPECIALISTS

For more details circle NED-175 F1 on enclosed inquiry slip

Extend the Length of Standard Taps with WALTON EXTENSIONS

SAVE THE COST OF SPECIAL TAPS

Walton Tap Extensions are "money-savers" for those with tapping problems . . . in deep holes or awkward locations. Often standard taps do not reach, and usually there is no turning space for a tap wrench. Extensions will provide needed length, save lost time, and the expense of special "long" taps.

STYLE "A" for Hand Tapping Only

Eleven sizes fit all standard hand taps, all flute styles, from 3/16" (#10) to 1" inclusive. Each size packaged as a set of two 5" extensions for use singly (lengthens tap 5") or in combination (lengthens tap 10").

STYLE "B" for Machine & Hand Tapping

Single units fit together into a rigid, closely aligned assembly. With a set of 9 extensions, as many as 4 can be coupled together to form an extension up to 28¼" long. Adaptable to all standard taps from #0 to ½".

Stock Walton Tap Extensions as insurance against costly tapping problems in your shop. Or try them at our expense (ask about free trial offer) and rate them for a place in your tool crib.

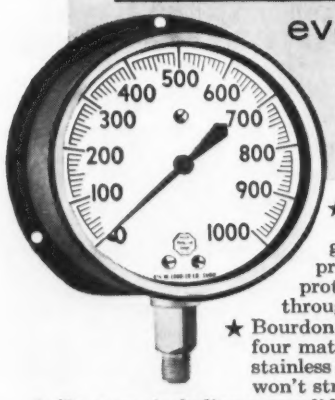
Write for Data *Folder No. 26*

WALTON TOOLS SINCE 1908 HARTFORD, CONN.

THE WALTON CO. HARTFORD 10, CONN.

For more details circle NED-176 F1 on enclosed inquiry slip

Helicoid Gages give ***Sustained Accuracy,*** even on the toughest jobs



★ Exclusive Helicoid movement has no gears, no teeth. Shock-proof construction protects accuracy through millions of cycles.

★ Bourdon tubes available in four materials—bronze, steel, stainless steel, and K Monel—won't stretch, crack, or leak.

★ Six cases, including new solid-front safety case, meet every mounting requirement.

★ External pointer adjustment can't be jarred out of position.

★ A complete selection of gages and accessories for hydraulic, chemical, and other service.

Write for Catalog DH-65.

HELICOID GAGES

Helicoid Gage Division
American Chain & Cable Company, Inc.
929-J Connecticut Avenue • Bridgeport 2, Conn.

ACCO

For more details circle NED-177 F1 on enclosed inquiry slip

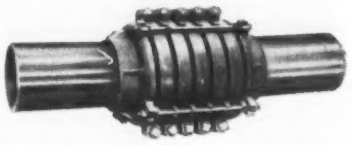
FLEXONICS EXPANSION JOINTS

Dependable Motion Control for All Piping

FREE FLEXING—Available in stainless steel or copper in sizes from 3" to 48" I.D. for pressures up to 50 psi. Traverse up to 6¼". Choice of flanges or welding ends.

CONTROLLED FLEXING—

Available in stainless steel or copper in sizes from 3" to 24" for pressures up to 300 psi. Traverse up to 7½". Choice of flanges or welding ends.



COMPENSATORS—Available in sizes ¾" through 3". Will take up to 1¾" compression stroke at working pressures up to 150 psi.

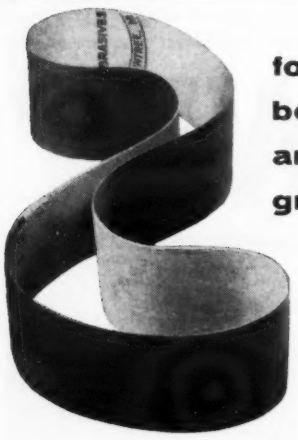
Write for Catalog

Flexonics

Division of Calumet & Hecla, Inc.
362 E. Devon Ave., Bartlett, Illinois

Expansion Joints · Flexible Metal and Synthetic Hose · Metallic Bellows · Synthetic Hydraulic Hose · Aircraft Components

▲ For more details circle NED-178 F1 on enclosed inquiry slip ▲



for a better finish and lower grinding cost... JEWEL BRAND abrasive belts

Today's modern machines practically think for themselves, but they can't choose the right abrasive belt. That's why experienced men specify Jewel Brand. They know that Jewel Brand abrasive belts give them the right bond, the right backing, the right grain. For a trial run in your plant, call your industrial distributor or write Abrasive Products, Inc., South Braintree 85, Massachusetts.

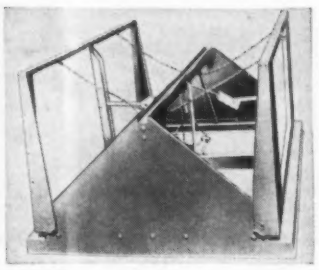
JEWEL BRAND

COATED ABRASIVES

belts • rolls • sheets • discs • specialties

▲ For more details circle NED-179 F1 on enclosed inquiry slip ▲

HEAT & SMOKE RELIEF VENT has glass fiber skylight windows



Original Pyrojector relief unit for venting heat, smoke, or explosion shock waves upward through the roof now has glass fiber windows in the doors to serve as a skylight. The Sky-Lite Pyrojector is installed entirely above the roof and has a quick release chain for manual operation. Handles permit opening from the roof without disturbing the release mechanism. When dampers open, snubber chains and springs hold them vertical for maximum draft. • **Swartwout Fabricators, Inc.**, 100 E. North St., Kokomo, Ind.

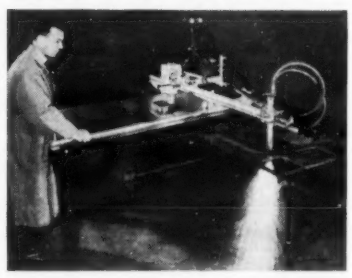
▲ For more details circle NED-181 F1 on enclosed inquiry slip ▲

MERCURY PUSHBUTTONS accommodate as many as eight poles

As many as eight poles can be incorporated into 700 series Merc-Amatic mercury pushbutton stations, designed for panelboard or individually mounted instrument uses. The self-contained switch assemblies have dust, dirt, and moisture proof unbreakable steel-clad mercury contactors and safety features for use in corrosive, explosive, or moisture conditions. Many combinations of operating units are available. • **Tigerman Engineering Co.**, 4332 N. Western Ave., Chicago 18, Ill.

▲ For more details circle NED-182 F1 on enclosed inquiry slip ▲

METAL-CUTTING MACHINE will operate from steel templates



Operated safely by unskilled workers, this Type RMI portable oxycutting machine will perform automatic production cutting from steel templates, square or bevel edge straight cutting, hand-guided cutting, or compass-guided circular cutting. Circles with radii from 2⅜ to 15¾ in. can be cut. Machine makes longitudinal cuts up to 50 in. and transverse cuts up to 30 in. It is light in weight for easy moving and quick set-up, and costs less than $1000. • **Chemetron Corp.**, National Cylinder Gas Div., 840 N. Michigan Ave., Chicago 11, Ill.

▲ For more details circle NED-183 F1 on enclosed inquiry slip ▲

MODEL 22-C Steel bound Pallet Box — 2-way or 4-way entry — any size — stacks strong and safe.

IRONBOUND HANDLING EQUIPMENT

A darn good way to store, segregate and move your product.

Standard as well as custom superstructures are available. Send dimensions, capacity and quantity for quotation.

IRONBOUND BOX & LUMBER CO.
750 RAMSEY AVENUE • HILLSIDE, NEW JERSEY
Representatives in principal cities

TRY US FOR THE FOLLOWING IRONBOUND EQUIPMENT:
Skids (Any Type)
Semi-Live Skids & Jacks
Floor Trucks, Box Trucks, Shelf Trucks, Garment Trucks, Roll Trucks, Dollies & Pry Bars, Specials

MODEL 40 Hardwood box truck with steel corners—any size and capacity. All wheel types and arrangements.

▲ For more details circle NED-184 F1 on enclosed inquiry slip ▲

"Feeds Itself" HOG RING FASTENER

- Exclusive automatic feed for fast operation.
- Loads quickly and easily with strip of 50 pre-formed staples.
- One-hand operation.
- Replaces tying, winding, wrapping, wiring, taping.
- Cords, ropes and cables 1/2 inch or less over-all can pass inside the open staple, which can be compressed down to 5/16 inch.
- Pointed staples provide easy penetration for fastening sisal, burlap, felt or other fabrics to wire frames.
- Ideal for tightly sealing twisted necks of cloth, paper or plastic.

FREE DEMONSTRATION OFFER — No obligation. Circle the Reader Service Card at the back of this publication. We'll arrange a demonstration in your plant—wherever you use "wrap-around" fastening. FREE BULLETIN—We'll also send you descriptive literature on the P7 and some of its many applications.

Fasten it better and faster with

BOSTITCH®
STAPLERS AND STAPLES

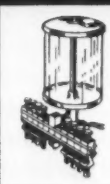
686 BRIGGS DRIVE, EAST GREENWICH, R. I.

▲ For more details circle NED-185 F1 on enclosed inquiry slip ▲

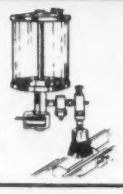
OIL-RITE LUBRICATING EQUIPMENT

A COMPLETE LINE...for better Automatic Lubrication

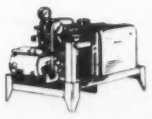
DROP FEED OILERS
Low cost, dependable lubrication. Drop feeding adjusted by needle valve. Any setting may be locked. Shut-off toggle starts or stops oil flow. Available in many models and capacities from ½ oz. to 1 gal. with ⅛" to ½" pipe thread or for remote mounting.



ELECTRO OILERS
Lubricates up to 24 points from single reservoir. Oil is fed by gravity to individually adjustable outlets. Solenoid connected across motor — oiling starts and stops with motor switch. Available in single or multiple feeds. Capacities 9 oz. to 1 gal.



ELECTRO CHAIN OILERS
Reduce wear — eliminate hand oiling. Feed oil through solenoid and sight feed valve to brush riding chain. Solenoid permits oiling only when chain moves. Drop feed adjustable. 9 oz. to 1 gal. capacity. Many styles and brush sizes.



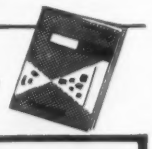
DISPENSERS
Feed oil to elevated, distant and inaccessible points for dispensing through valves. Ideal for dusty and dirty surroundings. Air operated or motor driven gear pump circulating oiling system available in a wide range of sizes and tank capacities.

SIGHT FEED VALVES
For any application requiring adjustable visible needle valve control. Friction screw retains hairline adjustments. Large vented sight chambers for observing oil flow. Many styles, single or multiple feed.

LIQUID LEVEL GAGES
Rugged construction, with glass or plastic sights, revolvable shields and guarded vent hole. Can be taken apart for installation in tight places. Many styles and sizes in both plain and shielded, elbow or straight types.

OIL-RITE offers you BIG SAVINGS — Low cost oilers . . . automatic lubricating systems . . . ways to reduce costs and maintenance . . . you'll find them all in the complete OIL-RITE line. Backed by 25 years experience, OIL-RITE engineers will help you select the model to fit your application. Write today for a catalog on the COMPLETE OIL-RITE line. Consult us without obligation.

Items illustrated are only a few in the extensive Oil-Rite line. Complete catalog will be sent on request.



Take advantage of **Oil-Rite** Application Engineering Service

Oil Cups • Dispensers
Oiling Systems • Valves
Oil Gages • Chain Oilers

Oil-Rite CORPORATION
2364 Waldo Boulevard • Manitowoc, Wisconsin

▲ For more details circle NED-180 F1 on enclosed inquiry slip ▲

NOW YOU CAN PAINT OVER RUST

Brush or spray OSPHO on rusted metal.

Apply OSPHO® on rusted metal after simply wire-brushing loose rust. OSPHO chemically changes rust into iron phosphate and stops further rust action. Resulting inert surface is an excellent base for maintenance paint. Paint jobs last longer, as proved by repeat orders over past 12 years.

Non-toxic, non-flammable. A gallon treats up to 600 sq. ft. Treats new metal too — prepares galvanized and aluminum surfaces for paint.

1-gal. bottles (cases of 4) @ $3.50 per gal.
5-gal. pails @ $3.40 per gal. • 50-gal. bbls. @ $3.00 per gal.
F.O.B. CLEVELAND

NO-RISK OFFER. Order 5 gallons. Try OSPHO. If it does not do what we claim, *we'll cancel the invoice.*

RUSTICIDE PRODUCTS COMPANY
3131 Perkins Ave., Cleveland 14, Ohio
Quality Maintenance Products Since 1917

▲ For more details circle **NED-186 F1** on enclosed inquiry slip ▲

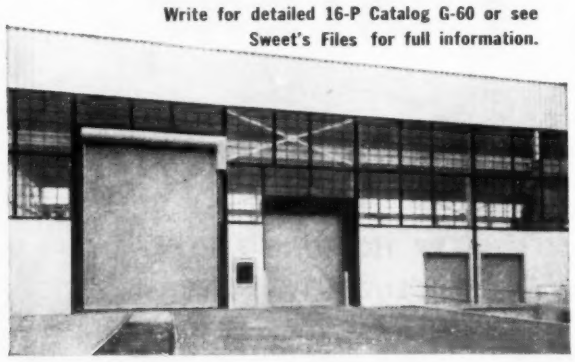
Mahon rolling steel doors

SAVE SPACE
SAVE SERVICE
SAVE COSTS

in sizes and types to fit your application

Rolling Steel Doors are the proven and best way of closing any type opening. For a plant, distribution center or loading dock—in new or remodeled facilities—Mahon has the right Door for the job. Rugged, easy operating, Bonderized (and synthetic baked enamel protected) Steel Doors, power or manually operated, will give you long, trouble-free service. If damaged, they are completely repairable by an experienced Mahon crew . . . service contracts available.

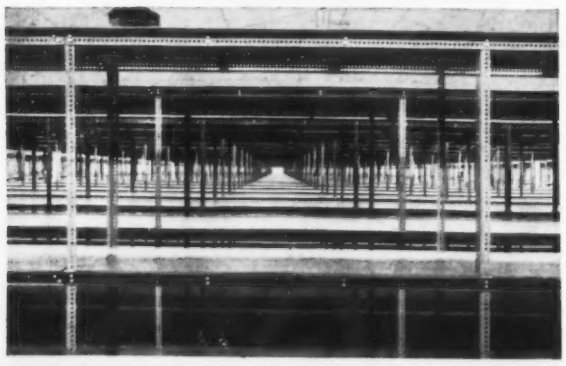
Write for detailed 16-P Catalog G-60 or see Sweet's Files for full information.



MAHON

THE R. C. MAHON COMPANY • DETROIT 34, MICHIGAN
Manufacturing Plants—Detroit, Mich. and Los Angeles, Calif.
Sales Offices or Representatives Located in All Principal Cities

▲ For more details circle **NED-187 F1** on enclosed inquiry slip ▲



BUILD IT with Republic METAL LUMBER

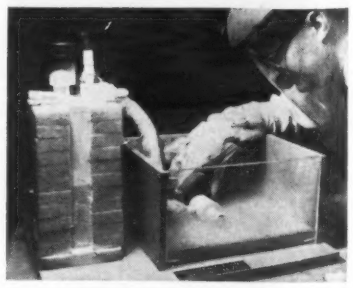
Versatile as its name implies, Republic Metal Lumber®—the strong, easy-to-use framing material of 1,000 uses.

Simply measure, cut, assemble . . . for racks, benches, ladders, shelving. Delivered in bundles of 10 pieces, 10- or 12-foot lengths. Send for idea catalog, or call your Republic representative.

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

▲ For more details circle **NED-188 F1** on enclosed inquiry slip ▲

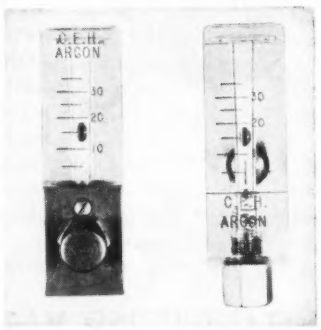
AIR-LUBRICATED BEARING operates in −330 to 600° F ambients



Load-carrying shaft spins freely on a cushion of compressed air in this Boeing step bearing which operates at up to 100,000 rpm in ambients ranging from −330 to 600° F. The minimum-friction, externally pressurized bearing has a single, easily drilled opening. Pressurized air entering the shaft housing through this opening becomes trapped in a shallow recess machined on the shaft. The air then lifts the shaft and becomes the bearing lubricant. Recess traps only enough air to meet load requirements. Air is throttled as it escapes from the recess. Potential uses include machine tools, high speed turbines, and nuclear equipment where radiation damages lubricants. Company is prepared to license manufacturing rights to equipment specialists. • **Boeing Co.**, Aero-Space Div., Box 3707, Seattle 24, Wash.

▲ For more details circle **NED-189 F1** on enclosed inquiry slip ▲

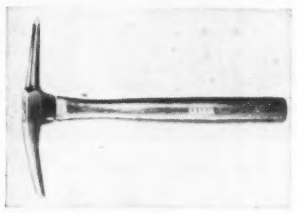
PURGE METERS for minimum space requirements



Minimum space requirements can be met with custom line of purge meters which are easily modified for special purposes. Units are offered in 0.01 to 90 scfh air or 0.001 to 20 gph water capacities with maximum operating pressure of 100 psi. O-ring seals eliminate body stress and strains. • **Chem Flow Corp.**, C-Mar Sales Div., 143 Paterson Ave., Little Falls, N. J.

▲ For more details circle **NED-190 F1** on enclosed inquiry slip ▲

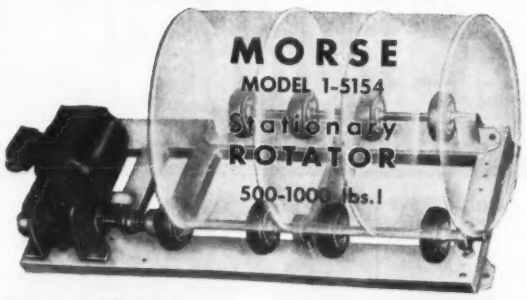
CHIPPING HAMMER tempered for indefinite sharpening



Head of this CMD Swing-Balance chipping hammer is tempered throughout so that it can be sharpened right down to the shaft if desired. Hammers have hand-contoured handles of wood and allow twice the usual number of sharpenings without pronounced change in the swing balance. • **Chicago Mfg. & Distributing Co.**, 1914-F W. 46th St., Chicago 9, Ill.

▲ For more details circle **NED-191 F1** on enclosed inquiry slip ▲

HEAVY DRUM ROTATING



Cuts Costs . . . Fast . . . Safe

You can now mix, blend or tumble loads up to 1000 lbs. with the new MORSE Model 1-5154 Stationary ROTATOR. It is primarily engineered for heavy loads in 30 to 55 gallon drums yet lesser loads can be rotated with equal efficiency. Any diameter drum can be mounted by adjusting only three bolts.

The rugged ½ H.P. motor can be geared to give any fixed speed from 5 to 30 RPM. Six inch drive wheels (4) and idler wheels (4) have Neoprene treads for smooth, non-slip revolving. Drive shaft, idler shaft and all welded steel frame are extra rugged construction for long-lasting, trouble free operation.

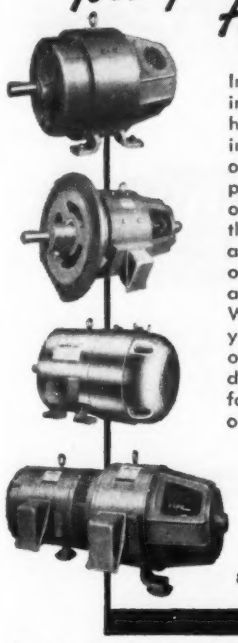
A double drum model No. 2-5154 with a 2000 lb. capacity is also available. Write today for brochure on complete Morse line.

MORSE
MANUFACTURING CO., INC.
756 West Manlius Street, East Syracuse, N. Y.

▲ For more details circle **NED-192 F1** on enclosed inquiry slip ▲

IMPERIAL D-C MOTORS

for Dependable Heavy-Duty Service

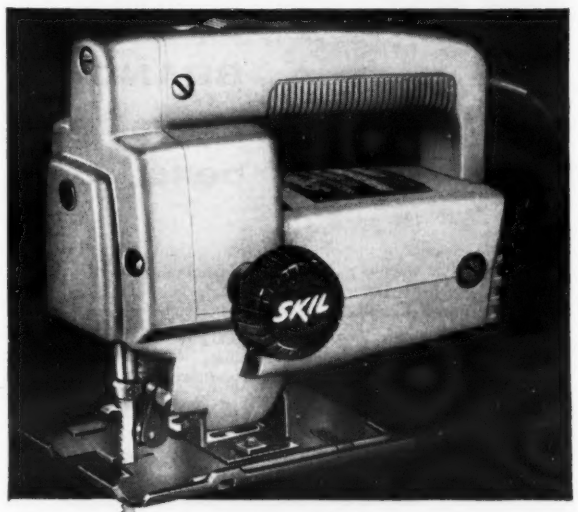


Imperial D-c Motors meet the ever-increasing demand for dependable, heavy-duty drives in nearly every industry today. Over seventy years of d-c design and application experience is behind the manufacture of these motors. Ratings from 1 through 125 hp., for constant or adjustable speeds with shunt, series or compound windings are available in all standard enclosures. When you choose **The Imperial Line** you are assured of motors that stay on the job longer . . . keeping production high at lower costs. Write for bulletin or contact the sales office nearest you.

IMPERIAL
ELECTRIC COMPANY
84 Ira Avenue • Akron 9, Ohio

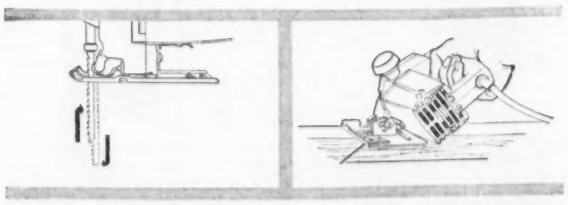
▲ For more details circle **NED-193 F1** on enclosed inquiry slip ▲

NEW! FROM SKIL



2-SPEED JIG SAW CUTS WOOD AND METAL

World's fastest cutting jig saw! Flick the switch to high speed on this heavy-duty Model 160 Jig Saw for cutting wood, plastic and compositions. Flick it to low for fast metal cutting with less blade wear. Use it to rip, cross cut, plunge cut, notch, scroll cut, bevel. Special 3-position foot lets you cut plywood without splintering. Only $99.50, complete with rip guide, 4 blades. Ask your Skil distributor to demonstrate. Or write: Skil Corporation, 5033 Elston Ave., Dept. 119F, Chicago 30.



FULL 1" ORBITAL CUTTING STROKE—For ultra fast cutting with less blade drag and wear.

FULL 45° RIGHT AND LEFT BEVEL ADJUSTMENT—Stop pin for quick 0°, 15°, 30° and 45° settings.

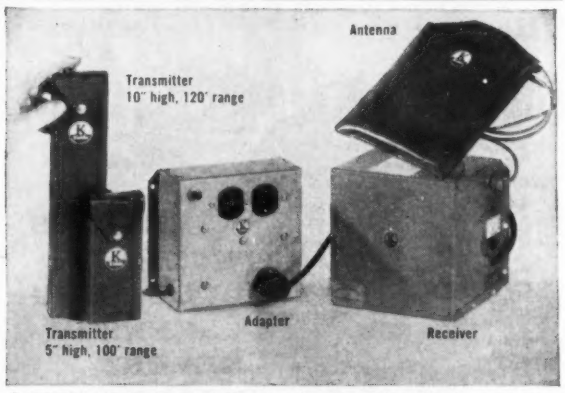
SKIL ...and SKILSAW POWER TOOLS

▲ For more details circle **NED-194 F1** on enclosed inquiry slip ▲

How
"AXIAL ADJUSTMENT"
Reduces Costs, Maintenance, and Wear

The DEMING Co.
606 BROADWAY • SALEM, OHIO

For more details circle **NED-195 F1** on enclosed inquiry slip



Approved by the Burglary Protection Department of Underwriters' Laboratories

New portable alarm in a pocket-sized package!

Sounds alarms • Turns on lights • Closes doors • Reports hold-ups

Port-O-Larm uses a miniature, pocket-size radio transmitter to signal a fixed receiving unit whenever trouble strikes.

Ideal for use by bank tellers, sales personnel, plant guards or watchmen, the Kidde Port-O-Larm sends a pulsating radio signal to the receiver when the transmitter button is pressed. This causes an alarm to sound either locally, remotely, or at a central alarm station. For full information write Kidde today.

Kidde

Kidde Ultrasonic & Detection Alarms Division
624 Brighton Road, Clifton, N. J.
Walter Kidde & Company, Inc.

For more details circle **NED-196 F1** on enclosed inquiry slip

Max. Inlet Pressure 250 psi
Outlet pressure ranges
0 - 5 psi
5 - 35 psi
35 - 100 psi
Connections ¼" NPT
(Options include side tap for pressure gauge, internal relief valve, hand wheel adjustment)

New way to filter and Control Gas or Air

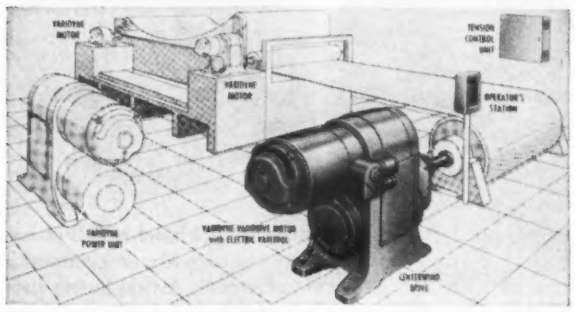
The Rockwell "080" filter regulator assures a clean supply of gas or air delivered at a constant pressure to pneumatic systems, instruments, paint spray units, air chucks, etc. *It's very economical to buy and easy to maintain.* The filter is replaceable; a drain valve is provided. Also available without filter. Write for bulletin 1111-A. Rockwell Manufacturing Company, Dept. 45-F, Pittsburgh 8, Pa. In Canada, Rockwell Manufacturing Company of Canada, Ltd., Box 420, Guelph, Ontario.

"080" FILTER REGULATOR
another fine product by
ROCKWELL

For more details circle **NED-197 F1** on enclosed inquiry slip

AUTOMATIC TENSION REWIND
three frequency controlled types for plastic, paper, metal winding

Accurate control of tension as it builds up on the radius of the reel is provided by the Centerwind Drive, an automatic tension rewind based on the Varidyne

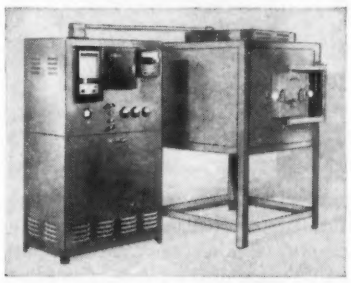


Range Drive System. It is suited to applications involving plastic, paper, or metal winding, and is automatically synchronized with the line speed. The operator sets the tension at any desired level for constant or tapered tension winding, and it is kept within the web strength limitations to avoid tearing.

Varidrive type for low strength or freshly printed material requiring extreme uniformity of tension, torque motor type for nonreinforced plastic films needing very low tension with a fixed taper, and mechanical clutch type with manual or automatic control for constant or taper tension and very high build-up ratios are three types offered. • **U. S. Electrical Motors Inc.**, Box 2058, Terminal Annex, Los Angeles 54, Calif.

For more details circle **NED-198 F1** on enclosed inquiry slip

HEAT TREAT FURNACES
cabinet, elevator, shuttle types for temperatures up to 3000° F



Heating elements made from molybdenum disilicate are used in this line of Kanthal-Super furnaces, suited for two types of operating conditions: Firing in oxidizing or nitrogen atmospheres in a 2600 to 3000° F range; firing in atmospheres containing CO or H_2 up to 2730° F. Hearth of each model except the smallest is raised above the floor to expose the entire load to radiation and to facilitate heat transfer.

Standard models are made in three types: Cabinet models, (shown with electrical and control components in a separate cabinet), with setting spaces ranging from 7 x 7 x 14 in. to 12 x 12 x 22 in.; elevator models with spaces from 12 x 12 x 22 in. to 36 x 30 x 84 in.; and shuttle kiln models with 20 x 24 x 36-in. to 36 x 30 x 84-in. setting spaces. • **Harrop Precision Furnace Co.**, 3470 E. Fifth Ave., Columbus 19, Ohio.

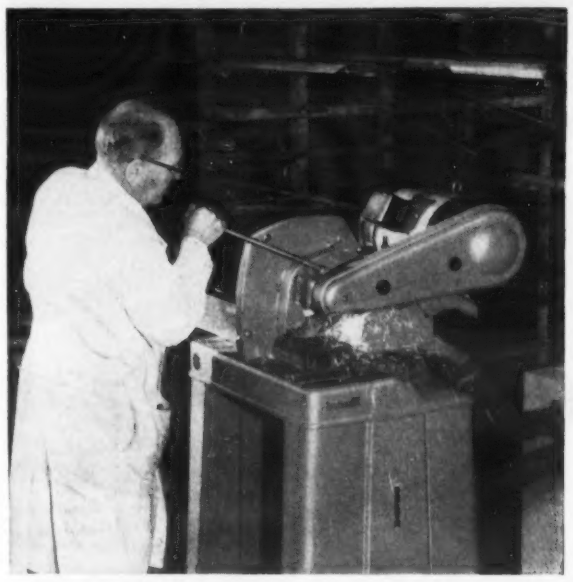
For more details circle **NED-199 F1** on enclosed inquiry slip

Walker-Turner 7" Grinders
EVERYTHING NEW *but the price!*

Now you can handle grinding of complex shapes with the same ease and accuracy as simple sharpening jobs. At no increase in price, these improved W-T Grinders offer important new features—'Thin Line' motor, Twin-Lite® Safety Shields and precision ground tool rests. You'll like the new flexibility, accuracy and safety, too. See your W-T Distributor today (listed under TOOLS or MACHINE TOOLS in the Yellow Pages) or write for FREE folder: Rockwell Manufacturing Co., Walker-Turner Division, Dept. WF45, 400 N. Lexington Ave., Pittsburgh 8, Pa.

WALKER-TURNER
"LIGHT-HEAVYWEIGHT" MACHINE TOOLS
another fine product by
ROCKWELL

For more details circle **NED-200 F1** on enclosed inquiry slip



You can do more with
DELTA'S NEW 12" Cut-Off Machine

This tool gives you the power and capacity to handle 3 x 3" angles, 4" channels, tube and bar stock up to 3¼" in diameter or woods and plastics up to 2 x 8". You can equip for dry or wet abrasive cutting, or blade cutting of a wide variety of materials with a choice of 3 hp and 5 hp motors, at speeds above 12,000 sfpm. You'll like these new, exclusive features:

RETRACTABLE SIZE GAGE—quickly and accurately gages stock from 0" to 14"; prevents binding of cutting tool in stock.

HOLLOW ARBOR MIST COOLANT—patented design lubricates both blade and work piece, oil flows down both sides of blade and fan action of blade throws mist of oil on work piece.

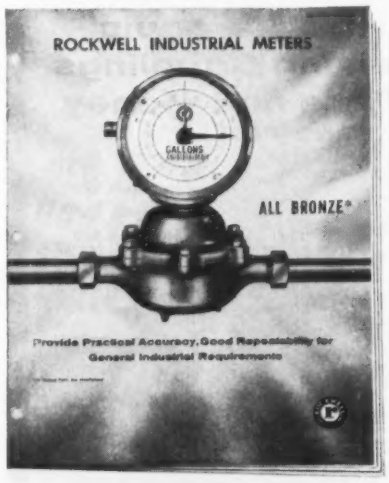
REPLACEABLE ARBOR—special cartridge assembly practically eliminates downtime, can be replaced in minutes.

Your Delta Industrial Distributor (listed under TOOLS or MACHINERY in the Yellow Pages) will gladly give you more details and the low price of the model that best suits your needs.

FREE BROCHURE—Complete specifications on every model of the new Delta 12" Cut-Off Machine. Write: Rockwell Manufacturing Co., Delta Power Tool Division, 626F N. Lexington Ave., Pittsburgh 8, Pa.

DELTA INDUSTRIAL TOOLS
another fine product by
ROCKWELL

For more details circle **NED-201 F1** on enclosed inquiry slip



NEW!
Low Cost Meters

Send for free bulletin

You can handle up to 95% of all your in-plant metering needs with this sturdy meter design. You'll save on first cost and save substantially thereafter by gaining accurate records over all piped liquids for cost, inventory and usage control. Write for bulletin, PI-666. Rockwell Manufacturing Company, Dept. 126F, Pittsburgh 8, Penna. In Canada: Rockwell Manufacturing Company of Canada, Ltd., Box 420, Guelph, Ontario.

INDUSTRIAL METERS
another fine product by
ROCKWELL

For more details circle **NED-202 F1** on enclosed inquiry slip

CAMPBELL CHAIN

This booklet gives you **complete** information with illustrations on proper Sling Chain inspection and maintenance. It's a valuable aid for your safety program. Write today for your free copy.

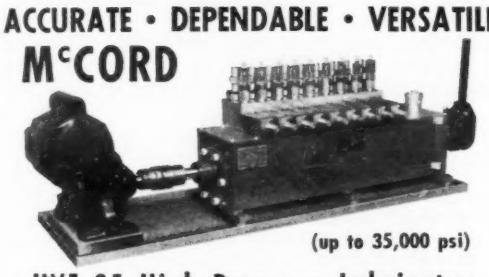
CAMPBELL CHAIN *Company*

FACTORIES: York, Pa.; West Burlington, Iowa; Union City, Calif.
WAREHOUSES: E. Cambridge, Mass.; Atlanta, Ga.; Dallas, Texas; Chicago, Ill.; Portland, Ore.; Seattle, Wash.; Los Angeles, Calif.

For more details circle NED-204 F1 on enclosed inquiry slip

ACCURATE • DEPENDABLE • VERSATILE

McCORD



(up to 35,000 psi)

HVF 35 High Pressure Lubricator

Lubrication against high pressures . . . pressures up to 35,000 lbs. psi. . . . is no job for ordinary lubricators. It's a special application requiring a specially engineered lubricator . . . McCord's HVF 35 Lubricator.

HVF 35 is designed to feed oil . . . a fraction of a drop or 12 drops per minute with extreme accuracy. It's precision-built to provide positive, dependable oil delivery with every impulse of the plunger. And versatile! . . . any combination of drive, location or type, number of feeds or compartment arrangements is available.

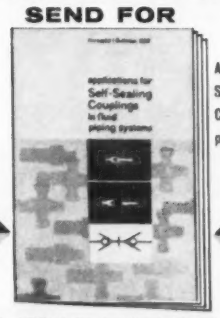
FOR COMPLETE DETAILS ON McCORD'S HVF 35, write today to: Advertising Manager—

McCORD CORPORATION
Lubricator Division • Detroit 11, Michigan

For more details circle NED-205 F1 on enclosed inquiry slip

See How Aeroquip Self-Sealing Couplings Save Time and Money

SEND FOR



Applications for Self-Sealing Couplings in fluid piping systems

A NEW BOOKLET THAT SHOWS BASIC APPLICATIONS OF ONE OF INDUSTRY'S MOST USEFUL TOOLS—THE SELF-SEALING COUPLING

Aeroquip has more than 20 years of experience in the design and manufacture of Self-Sealing Couplings and can supply types to cover the complete range of fluid piping requirements. Write for Aeroquip Bulletin 629 or call the Aeroquip Distributor near you. He's in the "Yellow Pages" under "Hose."

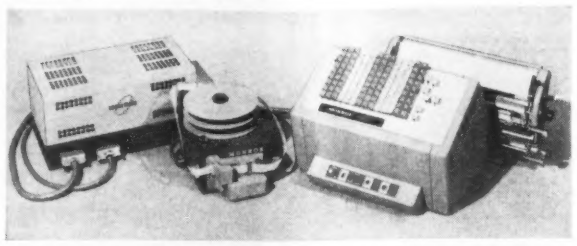
Aeroquip

AEROQUIP CORPORATION, JACKSON, MICHIGAN
Industrial Division, Van Wert, Ohio • Western Division, Burbank, California
Aeroquip (Canada) Ltd., Toronto 19, Ontario
Aeroquip Products are protected by patents in U.S.A. and abroad

For more details circle NED-206 F1 on enclosed inquiry slip

DATA PRINTERS for instrumentation systems

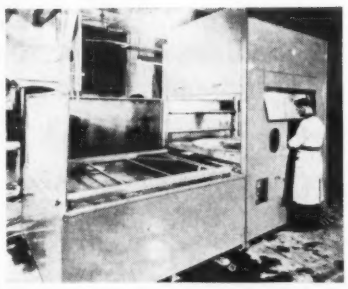
Two line printers for instrumentation systems have self-contained timing relays for printer control, and thus require only digit selection and function com-



mand from the source equipment. Model MC-208 has both a manual and 10-wire input, without accumulation or with multiple accumulators. A tabulating programmable carriage for preparation of hard copy and punched tape, or punched card output is incorporated. Without punched output it is identified as Model MC 206. Both accept data for logging, either electrically or by manual entry. Machine cycling speed is 145 cycles per minute (printing only) or 60 cycles per minute printing and punching a 14-digit word with automatic insertion of indicative codes. • **Monroe Calculating Machine Co.**, Electronics Components Div., 60 Main St., San Francisco 5, Calif.

For more details circle NED-207 F1 on enclosed inquiry slip

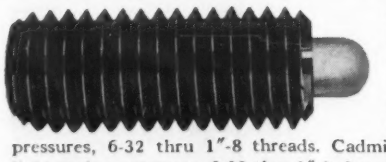
WET BLAST FINISHER work handler manipulates large, heavy workpieces



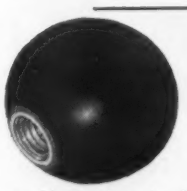
Finishing of large, heavy workpieces is handled readily on this Model AA-77 combination wet blast unit and work handling device. It is particularly suited for such work as heavy molds, dies, engine and machine components, and large parts. The part to be blast finished is placed manually on the rotating table of the Rollo-Table attachment or lowered with a chain hoist. The rotary table is then pushed into the blast cabinet. When finishing is completed, workpiece is rolled out and washed with clear water to remove residual abrasive.

The blast cabinet measures 70 x 70 x 108 in. and is made of stainless steel. A large rubber-gasketed window affords full view of interior. Three elliptical arm ports with dripproof gauntlets allow operator to take any one of two positions. The rotary work table has a capacity of 3000 lb. Equipment requires a 110-v electric connection, a ½-in. water line, and ¾-in. compressed air connection. • **Pressure Blast Mfg. Co.**, 27 Pleasant St., Manchester, Conn.

For more details circle NED-208 F1 on enclosed inquiry slip



SPRING PLUNGERS are now available in four types and thirty-four sizes. Black Pentrate Nose with standard spring pressures, 6-32 thru 1"-8 threads. Cadmium Plate Nose with light spring pressures, 6-32 thru 1"-8 threads. Black Nylon Nose with standard spring pressures, 8-32 thru ⅝"-11 threads. White Nylon Nose with light spring pressures, 8-32 thru ⅝"-11 threads. Northwestern Tools, Inc., 127 Hollier Ave., Dayton 3, Ohio.



PLASTIC BALL KNOBS with brass inserts are now available in four diameters and twelve thread sizes. ¾" diameter with 10-32 threads. 1" diameter with ¼-20, ¼-28, 5/16-18 or 5/16-24 threads. 1⅜" diameter with ⅜-16, ⅜-24, ½-13 or ½-20 threads. 1⅞" diameter with ½-13, ½-20 or ⅝-18 threads. Northwestern Tools, Inc. 127 Hollier Ave., Dayton 3, Ohio.

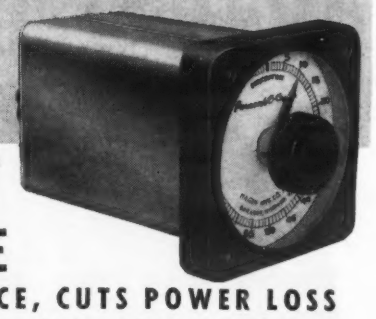
SWING "C" WASHERS complete with shoulder screws, are now available in four sizes for ⅜", ½", ⅝" or ¾" bolt sizes.

Write or call today for your free new 16-page cataolg. Catalog includes tracing templates of jig and fixture components. Northwestern Tools, Inc. 127 Hollier Ave., Dayton 3, Ohio.

Advt.

For more details circle NED-209 F1 on enclosed inquiry slip

new HAGEN timer permits setting "on" time directly as PERCENT OF CYCLE



SAVES SPACE, CUTS POWER LOSS

Only 3-1/2" square at the face, 4-5/16" deep, the Hagen Percent-O-Cycle Timer is a worthwhile substitute for power-wasting rheostats and variable voltage equipment on many applications. Snap action contacts, operated by synchronous motor drive, permit this unit to handle loads up to 25 amps at 120/230 volts, 60 cycles.

REPEAT ACCURACY 1/10 OF 1%

Easy to read dial makes it possible to set timer to 1/4% of desired setting.

Send for new HAGEN Bulletin 1360.

BLISS HAGEN MANUFACTURING DIVISION / BARABOO, WISCONSIN
Of The Gamewell Company

NED-661 AN E. W. BLISS COMPANY SUBSIDIARY

For more details circle NED-210 F1 on enclosed inquiry slip

H MICRO SWITCH Precision Switches

Actual size: 1.63 x 1.63 x 3.75

DETECTS WITHOUT TOUCHING . . . SENSOR NEVER WEARS OUT!

Honeywell Proximity Switch detects metal within ½-inch of the sensor—over 600 operations a minute!

This Honeywell switch has a sensor that has no moving parts to wear out—a sensor that need *never* be replaced! It has rugged stainless steel face, is sealed against cutting oils, humidity, sand and dust; can operate submerged if necessary. A Proximity Switch can be your answer to difficult switch problems, but be sure it is a product of Honeywell research. Contact the nearby MICRO SWITCH branch office and ask for Data Sheet No. 163.

MICRO SWITCH . . . FREEPORT, ILLINOIS . . . A division of Honeywell
In Canada: Honeywell Controls Limited, Toronto 17, Ontario

Honeywell
MICRO SWITCH Precision Switches

For more details circle NED-211 F1 on enclosed inquiry slip

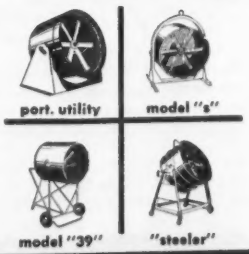
increase worker efficiency with

Aerovent **MANCOOLER FANS**

model "56"

For spot cooling of men and machines, exhausting dust or for general air circulation, these units aid in improving efficiency and production.

Five portable types—cradle, pedestal and 2 or 4 wheeled—each adjustable for 180° discharge. 24" to 48" (portable utility 16" to 36".) 2, 4 or 6 blades. Heavy-duty construction, with welded-steel guards for maximum safety.



write for free bulletin 250

Aerovent FAN CO. INC.
Ash and Blake Sts. Piqua, Ohio

For more details circle NED-212 F1 on enclosed inquiry slip

GREATER GRINDING EFFICIENCY ...LOWER "PER UNIT" COSTS

ALPHA
GRINDING WHEELS

Designed for fast action wherever quick metal removal is required. Their longer cutting life means more metal removed per disc wheel — reducing "per unit" production costs. And, because of this more efficient cutting action, Alpha disc wheels do not cause operator fatigue.

Made from abrasive grain and resinoid bond, Alpha disc wheels are strong and durable. Triple reinforcement provides greater safety while in operation.

Alpha grinding disc wheels are manufactured in 7 and 9 inch diameters in a complete range of grain sizes from 14 to 120.

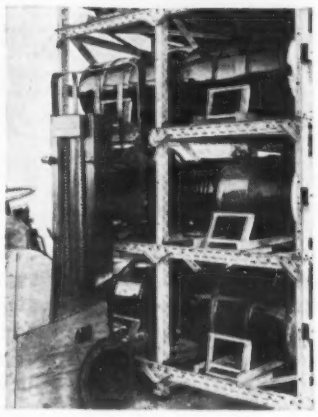
Write today for full information.

Atlantic Abrasive Corp.
A DIVISION OF ABRASIVE PRODUCTS, INC.
South Braintree 85, Massachusetts

STRAIGHT WHEELS • CYLINDER WHEELS • CUP WHEELS
CONES • PLUGS • MOUNTED WHEELS AND POINTS

▲ For more details circle **NED-213 F1** on enclosed inquiry slip ▲

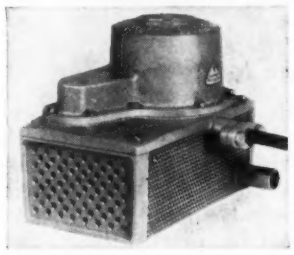
BARREL RACKS
first-in, first-out gravity type



Barrels loaded at receiving end of this gravity feed barrel rack roll toward the removal end where they are held in position by an arrester gate which also acts as a shock absorber. Spring-loaded arrester then allows first-in, first-out removal of a single barrel at a time while holding the rest of the barrels safely in position. Rack is tailor made for each application from heavy-duty Dexion slotted angle. • **Dexion, Inc.**, 39-25 62nd St., Woodside 77, N. Y.

▲ For more details circle **NED-216 F1** on enclosed inquiry slip ▲

SUBMERSIBLE PUMP
in 800-gph, 6 to 110-v dc models

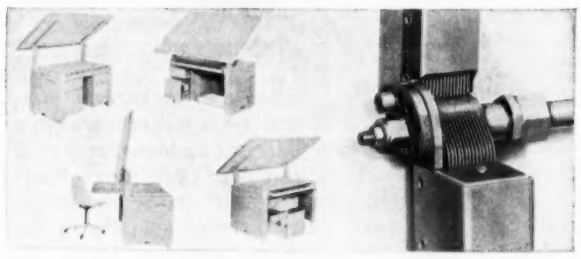


Compact and fully submersible, automatic Model PA and manually controlled Model PM all-bronze pumps will deliver up to 800 gph at heads to 12 ft. These 6-in. high pumps are sealed so as to be vapor and gas-tight. Usable on battery or line power, they are made for operation on 6, 12, 24, 32, and 110 v dc and consume 80 w. • **Sutton Mfg. Corp.**, 112 W. Wilson Ave., Norfolk 10, Va.

▲ For more details circle **NED-217 F1** on enclosed inquiry slip ▲

DRAFTING TABLE
torsion bar counterbalances board

Torsion Auto-Shift feature of this drafting table enables the user to work in a comfortable nonfatigueing position, with the entire surface within reach. This



enclosed tilt mechanism counterbalances the board through use of a torsion bar; it is adjustable to compensate for the weight of drafting machines. By combining drawing and reference facilities in one unit, floor space is saved. Storage area is accessible from either side. • **Hamilton Mfg. Co.**, Two Rivers, Wis.

▲ For more details circle **NED-218 F1** on enclosed inquiry slip ▲

With New McGILL
Heavy Duty *CAGEROL*®
Cage Type Needle Roller Bearings

You need CAGEROL bearing performance if higher speeds and increased misalignment have prevented the utilization of needle bearing load capacity in your applications. CAGEROL bearings can deliver up to ten times more expected life where misalignment and increased speeds exceed the capacities of ordinary end guided needle bearings. McGill construction features tapered retainer pockets for balanced roller guidance, crowned rollers, and black oxide retainer finish. CAGEROL bearings are interchangable with all heavy duty needle roller bearings — with or without inners in two bore sizes.

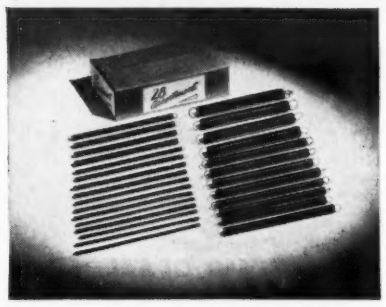
Write for helpful Bearing Handbook No. H-54-C for complete data

engineered electrical products — McGILL® precision needle roller bearings

McGILL MFG. CO., Bearing Div., 101 N. LAFAYETTE ST., VALPARAISO, IND.

▲ For more details circle **NED-220 F1** on enclosed inquiry slip ▲

Stock SPRING assortments



Our #28 (extension) Spring Assortment folders are now available and yours for the asking. Our #31 (compression) Spring Assortment folders are also available. Ideal for tool rooms and maintenance work.

To overcome the faults of ordinary assortments, which seem to contain "every spring except the one needed", design efforts were not confined to the springs alone; rather, loadings and dimensions were analyzed to assure the user of greater probability in having the correct spring on hand, whatever the application.

Find Your Nearest Paragon Agent In The Yellow Pages

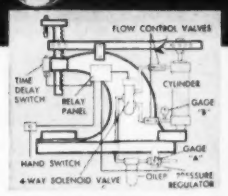
We also manufacture to special order. Send samples or prints for quotation.

PARAGON SPRING COMPANY
4619 W. Fulton St. • Chicago 44, Ill.

▲ For more details circle **NED-214 F1** on enclosed inquiry slip ▲

PNEU-TROL

AUTOMATION TIME DELAY SWITCH
FOR CONTROLLED TIME DWELL OF AIR OR HYDRAULIC CYLINDERS



Arbor press converted to high production power press, using double end cylinder, Time Delay Switch, Flow Control Valves, and related equipment. Flow Valves permit independent ram speed adjustment in both directions. Differential pressure between "A" and "B" gages caused by throttling effect of Flow Control Valve creates time interval in working pressure build-up, which is compensated for by Time Delay Switch setting. This insures consistently accurate working pressure on the ram.

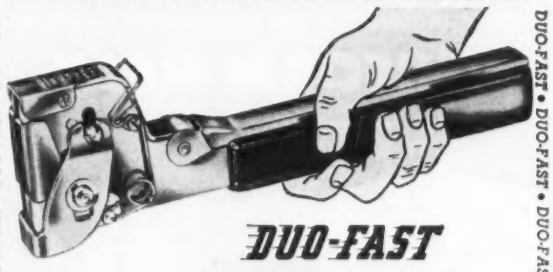
- **Holds dwell accurately to fraction of second**
- **Automatically re-sets**
- **Designed for millions of actuations**

Pneu-Trol Time Delay Switch will hold any cylinder controlled motion or operation at a positive stop on either end of the stroke for ¼ to 60 seconds in 20 to 1 ratios. Simple, easy to adjust. Automatically re-sets after each actuation. Positive, controlled time dwell permits wider use of air or hydraulic power in automatic operations, increases accuracy of work by insuring split-second accuracy of time dwell. Available with many thrust linkages for left and right, down, up, or horizontal thrust. Write for Special Bulletin TDS-59

AUTOMATION AUTO-PONENTS INC. COMPONENTS
2929 GRANT STREET
BELLWOOD (Chicago Suburb) ILLINOIS

▲ For more details circle **NED-221 F1** on enclosed inquiry slip ▲

• DUO-FAST • DUO-FAST • DUO-FAST • DUO-FAST • DUO-FAST • DUO-FAST •



DUO-FAST HAMMER TACKER

Drives tight-holding staples automatically as fast as you swing it

For fast manual tacking you can't beat DUO-FAST Hammer Tackers. A great tool for 1001 fastening jobs in shipping, packaging and production work.

You'll like the perfect balance and easy one-hand operation. Five fully guaranteed models to drive 3/16" to 9/16" DUO-FAST Staples.

Send today for details on how Hammer Tackers speed and simplify your work.

FASTENER CORPORATION, 3708-06 River Road, Franklin Park, Ill.

DUO-FAST Staplers Tackers Staples

▲ For more details circle **NED-215 F1** on enclosed inquiry slip ▲

• DUO-FAST • DUO-FAST • DUO-FAST • DUO-FAST • DUO-FAST • DUO-FAST •

DUO-FAST AIR PLIERS

Take this stapler to the work instead of the work to the stapler

When cartons or other stapling jobs are too cumbersome to take to a stationary stapling machine, DUO-FAST Air Pliers solve the problem. Portable, air-operated, this tool goes anywhere it's needed. Staples cartons and corrugated fillers easily and securely.

Send today for complete information on this portable, cost-cutting stapling tool.

FASTENER CORPORATION 3708-06 River Road, Franklin Park, Ill.

DUO-FAST Staplers Tackers Staples

▲ For more details circle **NED-219 F1** on enclosed inquiry slip ▲

• DUO-FAST • DUO-FAST • DUO-FAST • DUO-FAST • DUO-FAST • DUO-FAST •

NEW DUO-FAST STAPLE NAILER

Just a flip of the trigger drives this 2" heavy duty staple

Drives 4 tight-holding staples in less time than it takes to hammer one nail.

Ideal for assembling crates, boxes, frames and expendable skids. Magnesium light...easily portable...a one-hand tool...operates at 60-100 psi. Built-in safety features prevent accidental firing.

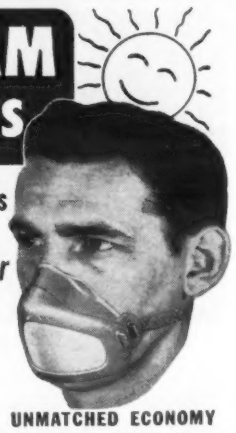
Send today for complete details on how this new Staple Nailer cuts packaging and crating costs.

FASTENER CORPORATION 3708-06 River Road, Franklin Park, Ill.

DUO-FAST Staplers Tackers Staples

▲ For more details circle **NED-222 F1** on enclosed inquiry slip ▲

FLEX-A-FOAM DUST MASKS



Dust protection your workers will welcome and wear *in even the HOTTEST weather*

★ **Ideal for Hot Weather** Filter's porous action absorbs and actually exhales body heat.

★ Flex-A-Foam's lightweight (only 1 ounce complete) makes it cool and comfortable to wear — not hot and cumbersome like old-fashioned respirators.

★ Flex-A-Foam is easier to breathe and talk through than an ordinary pocket handkerchief — does away with that stuffy, smothered feeling.

Your best *Ounce of Protection* against Irritating Dust

UNMATCHED ECONOMY

Flex-A-Foam is the lowest priced *quality* respirator on the market today.

Flex-A-Foam's washable filter outlasts throw-away type by more than 100 to 1.

Fewer filter replacements with Flex-A-Foam Dust Masks mean fewer lost production hours.

Sample only $1.45 postpaid (Industrial price only)

FLEX-A-FOAM® DUST MASK

FLEXO PRODUCTS, INC. • Westlake, Ohio

For more details circle NED-224 F1 on enclosed inquiry slip

Dependable!

Sutton MOTOR DRIVEN PRESSURE BLOWER

- For exhausting dust, smoke, fumes, vapor...conveying fibers, shavings...cooling, drying, forge blasting.
- One piece housing...self-cleaning wheel...strong lightweight cast aluminum.
- Even, non-pulsating air flow...straight wall design cuts windage—ups efficiency.
- Set direction of discharge in any of 8 positions,
- 100-800 cu. ft. at ½" to 6" static pressure.
- 3450 r.p.m. direct connected 60-cycle motor...3 sizes: ¼, ½, 1 H.P.

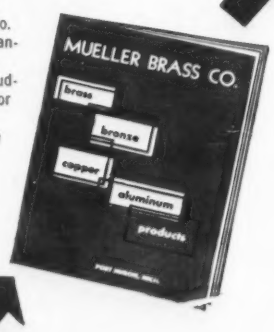
WRITE FOR LITERATURE AND PRICES

Sutton Manufacturing Corp.
112 W. WILSON AVENUE NORFOLK, VIRGINIA

For more details circle NED-225 F1 on enclosed inquiry slip

THIS MANUAL GIVES YOU THE FACTS ABOUT **ONE DEPENDABLE SOURCE** FOR A WIDE VARIETY OF BRASS, BRONZE AND ALUMINUM PRODUCTS.

This manual contains technical information on Mueller Brass Co. production processes for the manufacture of brass, bronze and aluminum fabricated parts including forgings, special alloy rod for screw machine products, impact extrusions, formed tube assemblies, sintered metal parts and plastic parts as well as products for the plumbing and heating and the refrigeration and air conditioning industries. Send for your copy today.



314

Please send the Mueller Brass Co. Manual No. FM 3017.

Name_____

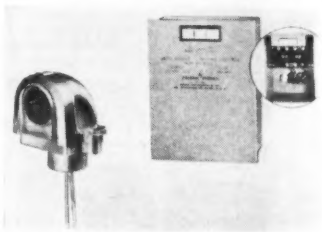
Firm_____

Address_____

City_____ State_____

MUELLER BRASS CO.
PORT HURON 37, MICHIGAN

PHOTOELECTRIC CONTROL
has manual switching provision



Lights are turned on by Series 6820 photoelectric controls when natural light fades to a certain intensity, then are turned off when natural light reappears at dawn. They may be turned off manually at any time by a button on the control box. Unit then automatically resets itself for subsequent automatic operation. Control may be used for outdoor sign lighting or general mercury vapor, incandescent, or fluorescent illumination. Model 6822 is factory set for a dusk-dawn cycle and Model 6821 for sign lighting operates well before darkness. Both models consist of a compact, weatherproof photocell unit and an easily wired control box. Load capacity is 1000 w, 10 amp, at 120 v ac. Capacity is increased by use of a 30-amp Model 251 multiple relay. • **Sigma Instruments, Inc.**, Fisher-Pierce Div., 170 Pearl St., South Braintree 85, Mass.

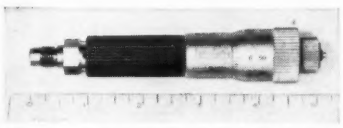
For more details circle NED-226 F1 on enclosed inquiry slip

PLASTIC TOOLS
heat resistant type made to order

Plastic tools that retain their strength in continuous operation at temperatures as high as 350° F are made by a process which uses two high temperature materials packaged in separate containers. Used in combination are Sonite LM-23, a filled epoxy laminating resin, and Sonite SC-4, a surface coat epoxy. Both are hardened with Sonite 42 hardener. User first applies the gel coat and then the laminating compound. Both are black. Materials are mixed cold, gel at room temperature, and heat cure without liquefying. • **Smooth-On Mfg. Co.**, 572 Communipaw Ave., Jersey City 4, N. J.

For more details circle NED-227 F1 on enclosed inquiry slip

PRESSURE INDICATOR
measures engine cylinder pressures



Accurate measurement of peak compression and combustion pressures in high speed diesel engines is function of this pocket-size mechanical indicator. Readings are displayed on a micrometer type scale graduated from 0 to 2000 psi in increments of 2 psi. The self-contained instrument is preset to a reading in excess of the peak pressure to be measured, when inserted into previously installed adapters in the engine. With the finger on the sensing plunger, the micrometer thimble reading is lowered until peak pressure equals the gage setting. Indicator is then removed from the adaptor which contains a check valve. • **Kistler Instrument Corp.**, 15 Webster St., North Tonawanda, N. Y.

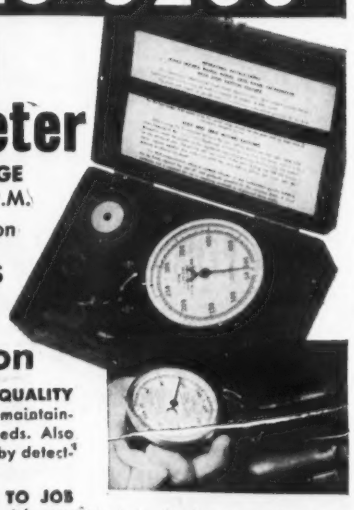
For more details circle NED-228 F1 on enclosed inquiry slip

JONES #3200

Hand Tachometer

BROAD RANGE
50 — 5,000 R.P.M.
with stop button

assures better production



HIGHER OUTPUT — QUALITY CONTROL obtained by maintaining proper machine speeds. Also helps avoid breakdowns by detecting irregularities.

CARRY IT FROM JOB TO JOB and keep it handy for quick, accurate tests. Choice of readings in R.P.M., F.P.M., etc.

GUARANTEED ACCURACY—superior construction, trouble-free. Unaffected by moisture, temperatures, electric currents.

Many other Portable and Stationary Models, indicating Speeds between 50 R.P.M. and 50,000 R.P.M., are available.

Write for catalog H

JONES MOTROLA CORP.
Stamford, Conn.

For more details circle NED-229 F1 on enclosed inquiry slip

SETKO self-locking set screws...

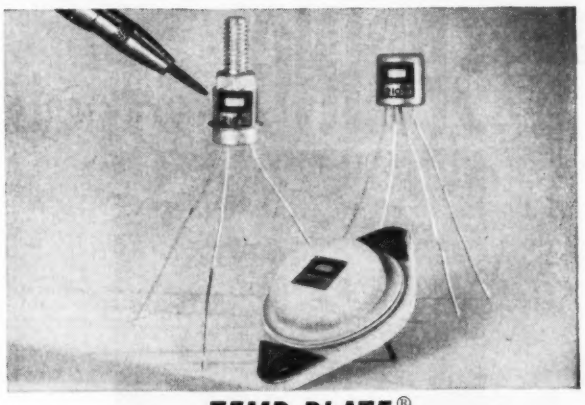
WIN FOR YOU EVERY TIME!

Setko Catalog 23 gives complete data and includes the exclusive Setko Self Locking Set Screw Selector Chart. Write for a copy on your company letterhead today.

SETKO Set Screw & Mfg. Co.
130 Main Street, Bartlett, Illinois
® Pat. 2,778,265 *Pat. Applied for 821R

We specialize in solving puzzling screw problems!

For more details circle NED-230 F1 on enclosed inquiry slip



TEMP-PLATE®
DETECTS ELECTRONIC OVERHEATING

Overheating of transistors, diodes, resistors and transformers is detected by Temp-Plate in a positive, direct manner. Simple, easy to use, irreversible, Temp-Plate is the little plastic tab that sticks to the component, turns black when the temperature reaches any desired value between 100° and 1100°F. Impervious to ambient atmosphere and production line handling, Temp-Plate is accurate to ±1%, provides for absolute indication of heat damage. Write now for descriptive literature.

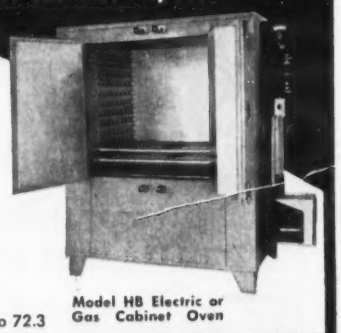
TEMP-PLATE / Pyrodyne, Inc.
11973 San Vicente Blvd.
Los Angeles 49, California

For more details circle NED-231 F1 on enclosed inquiry slip

Precise engineering and construction result in

UNIFORM HEAT

throughout the work space



- High velocity recirculating blowers
- Greater heat input
- Adjustable louvres for balanced airflow
- Superior heat seals

All combine to provide *excellent temperature uniformity* in these rugged cabinet ovens.

Model HB Electric or Gas Cabinet Oven

30 Standard Models

- Work space from 4.6 to 72.3 cubic feet
- Temperature ranges from 100 to 1250° F.
- Electronic combustion devices insure safety for gas fired models
- Indicating control instrument
- Factory tested

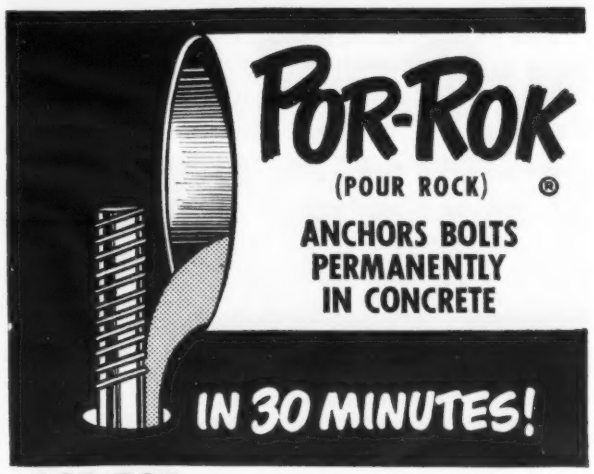
Other ovens from $121.50 up, including a complete line of laboratory, bench, cabinet, walk-in, and custom-built units.

Write for literature to help you select the right oven for your application

Specialists in Heat Process Equipment

GRIEVE-HENDRY CO.
1353 N. Elston Ave. Chicago 22, Illinois

For more details circle NED-232 F1 on enclosed inquiry slip



POR-ROK

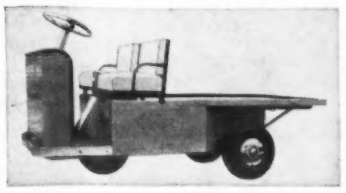
1. Fastens anything into concrete—PERMANENTLY—in minutes
2. Lowest cost
3. Mixed with water and poured into place
4. Applied cold
5. Self-leveling, self-bonding, oil resistant, never shrinks
6. Compression strength 4,500 psi in 1 hour

For complete information—without obligation—write

THE HALLEMITE MFG. CO.
2452 WEST 25th ST. • CLEVELAND 13, OHIO SINCE 1927

For more details circle NED-233 F1 on enclosed inquiry slip

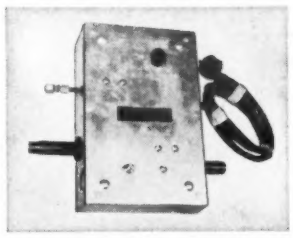
ELECTRIC SHOP TRUCK
maneuverable in narrow aisles



Model 11-A multipurpose factory and warehouse truck is an electric powered unit made of 16-gage diamond point steel plate. Designed for maneuverability in narrow aisles and confined areas, it is available in a 60-in. wheelbase model which is 98 in. long and 42 in. wide, and a 46-in. wheelbase model measuring 84 x 42 in. The longer truck has a turning radius of 14 ft 2 in. Platform area back of the two seats is 59 x 42 in. on both models. • **Laher Spring & Electric Car Corp.**, 2615 Magnolia St., Oakland 7, Calif.

For more details circle NED-236 F1 on enclosed inquiry slip

AUTOMATIC ELECTRIC DRAIN
has adjustable cycle timer settings



Air compressor tanks, dehydrators, refrigeration dryers, and other pressure vessels that require periodic draining are applications for the No. 8247 automatic electric drain. Adjustable cycle timer allows operation once every 2, 3, 4, or 6 hr, with valve opening times of 2, 5, or 10 sec. Other time delay relays can be supplied. Unit can be operated manually by turning the cycle timer indicator. Drain is enclosed in a galvanized or gray painted metal box. Designed for use on a ½-in. pipe, it is available in all common alternating current voltages. Maximum operating pressure is 150 psi and minimum is 70 psi. • **S & G Mfg. Corp.**, Box 1309, New Orleans 10, La.

For more details circle NED-237 F1 on enclosed inquiry slip

WASHER CHART
shows 14 sizes for specific bolts

Rapid and easy means of finding the correct washer size is provided by the "Size 'Em Up Yourself" wall-hanging washer chart. It shows 14 different sizes of washers and has accurately die-cut holes to check the fit of a specific bolt size for a particular job. Listed on the chart are inside and outside diameters, thickness of certain bolt sizes, number of pieces per pound, and the approximate weight per thousand. • **Paine Co.**, 501 Westgate Rd., Addison, Ill.

For more details circle NED-238 F1 on enclosed inquiry slip

For more details circle NED-234 F1 on enclosed inquiry slip

For more details circle NED-239 F1 on enclosed inquiry slip

Cargo sails smoothly on B.F. Goodrich industrial tires

For 20 years American Stevedores has put BFG tires to work on the waterfront in New York

A fleet of 650 lift trucks rumbles along the miles of docks in Brooklyn, Newark and Manhattan, keeping cargo on the go between ship and warehouse. The fleet is operated by American Stevedores, Inc., who for 20 years have relied on B.F.Goodrich industrial tires to speed freight handling.

The B.F.Goodrich Tire and Wheel Analysis Man keeps tabs on tire performance—recommended a switch to new BFG Steel Protected pneumatics when scrap materials caused problems. The Steel Protected industrial tire is built with 2 plies of steel cable under the tread. These cables shrug off tire-killing impacts and punctures. American Stevedores reports B. F. Goodrich tires give an average 2½ years' service on the original tread!

Take advantage of the dollar-saving services B.F.Goodrich Tire and Wheel Analysis Men offer. Without cost or obligation they'll study your materials handling setup—then recommend the tires that will give longest service at lowest cost. This advice is unbiased because B.F.Goodrich makes a complete line of industrial tires.

To have a free BFG Tire and Wheel Analysis Service, mail the coupon. A special BFG consulting service is available to manufacturers of materials handling equipment.

B.F.Goodrich
Specify B.F.Goodrich tires when ordering new equipment

The B.F.Goodrich Company
Department TW-843
Akron 18, Ohio

Please send me additional information on your free Tire and Wheel Analysis Plan.

Name_____
Company_____
Street_____
City_____ Zone____ State____

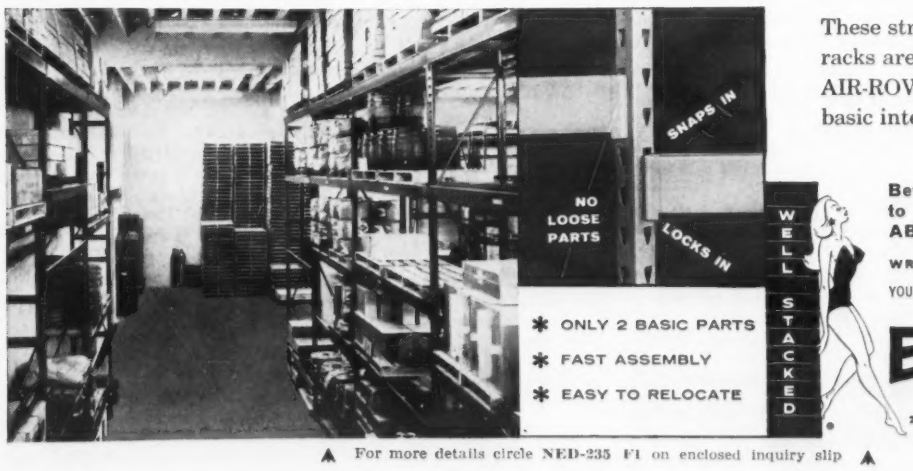
For more details circle NED-240 F1 on enclosed inquiry slip

FLEXIBILITY

EMI air-row head pallet racks

the most flexible, cost saving and work saving racks in the industry.

EMI *air-row head DRIVE-IN RACKS* • **EMI** *air-row head DRIVE-THRU RACKS*



These strong, efficient, space-saving racks are all engineered on the AIR-ROW Head principle with basic interchangeable parts.

Before you build, remodel or add to a storage area, FIND OUT ABOUT AIR-ROW HEAD RACKS

WRITE FOR DETAILED INFORMATION

YOU CAN STACK ANYTHING ON **EMI** RACKS

EQUIPMENT MFG. INC.
21550 HOOVER ROAD • DETROIT 5, MICHIGAN

For more details circle NED-235 F1 on enclosed inquiry slip

New Bulletin

FULLER REVOLVER FEEDERS

(Blow-through type)

- For delivering dry pulverized and granular materials into high-pressure pneumatic conveying systems with small diameter lines.
- Can be used with pressure systems of either high or low velocity type.
- Less headroom needed. Permits use of smaller components in rest of conveying system. Nine sizes available.

3087 F-27

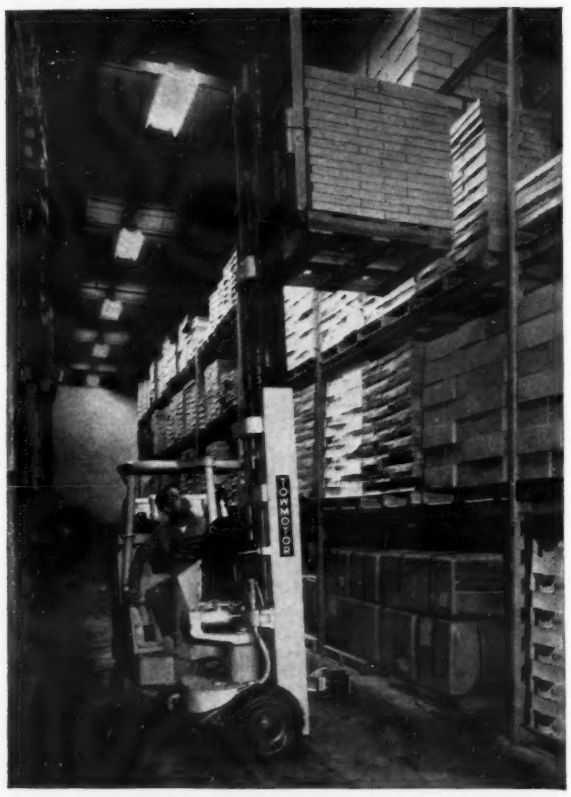
Write for Bulletin F-9

FULLER COMPANY
154 Bridge Street
Catasauqua, Pa.

Fuller
pioneers in harnessing AIR

SUBSIDIARY OF GENERAL AMERICAN TRANSPORTATION CORPORATION
Offices in Principal Cities Throughout the World

For more details circle NED-241 F1 on enclosed inquiry slip

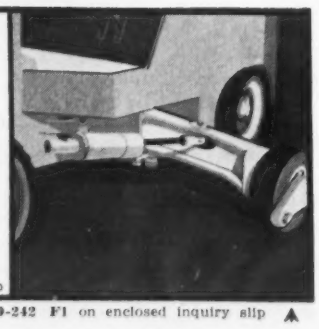


TOWMOTOR'S ON THE MOVE

—introducing Model 590 fork trucks with pivoting lifts that stack loads at 90° angles. Chalking up new records in narrow-aisle stacking. Widening its leadership in space utilization. Performing the jobs of three ordinary trucks. It's easier to buy a new Towmotor lift truck than to build a new warehouse. Utilize "lost" space with Towmotor fork lift trucks—made only by TOWMOTOR CORPORATION, CLEVELAND 12, OHIO.

TOWMOTOR
THE ONE-MAN-GANG ®

Narrow 6-foot aisle stacking is made possible by unique hydraulic outriggers on Towmotor "Naro-Aisle-Stack" Series fork trucks (above). Its use of foot-controlled Towmostatic Drive (eliminating conventional shifting and drive mechanisms) is another key factor in engineering this unit.



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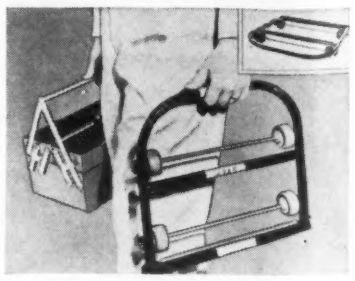
For more details circle NED-242 F1 on enclosed inquiry slip

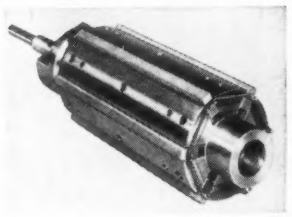
EQUIPMENT MOVER of structural steel tubing



Lightweight Tilt-er-Tool dolly constructed of structural steel tubing has wide use as a skid, platform, or equipment mover. To use the mover, its coated lip is placed under the apron of equipment to be moved. This makes rear wheels leave the ground. User places his foot on the device, lifts the equipment off the floor, and tilts it toward himself until balance point is reached. Load can then be moved about. Mover sells for $8.95. • **Automatic Service Supply Co.**, 17225 Sherwood Ave., Detroit 12, Mich.

For more details circle NED-243 F1 on enclosed inquiry slip

HONING TOOL employs an expansion bar



Reversible wear plates increase life of this honing tool 100 per cent. Tool employs an expansion bar in place of a stone holder and expansion pins. In addition to 180-degree rotation of wear plates, the new design allows the same head to be used for larger diameter honing by substituting larger wear plates and expansion bars. Wear plates can be changed without taking tool out of the machine, and can be purchased individually. • **Allied Machine & Engineering Co.**, 401 S. Delaney Rd., Owosso, Mich.

For more details circle NED-244 F1 on enclosed inquiry slip

SOCKET WRENCH SET handles 90 per cent of light jobs

Almost 90 per cent of all shop jobs can be handled by this 11-piece No. 311 socket wrench set which will fit into a tool box space only 7½ in. long. Set has seven ⅜-in. square drive, six-point sockets from ⅜ to ¾ in.; 3 and 5-in. extensions; and the No. 400 ratchet with oilproof grip. The hot-forged alloy steel tools are heat-treated and bright chrome plated. Set is provided in a metal box. • **Wright Tool & Forge Co.**, 42 E. State St., Barberton, Ohio.

For more details circle NED-245 F1 on enclosed inquiry slip

Don't ruin a valuable piece of equipment merely because some part is rusted tight. Apply Kroil, the amazing new chemical lubricant that creeps into millionth inch spaces (proved by laboratory tests), dissolves rust, supplies necessary lubrication and

LOOSENS FROZEN PARTS

18,000 of America's leading plants can't be wrong! They have used KROIL for 10 years and are still depending on it to save expensive labor and valuable parts. They say: "Kroil loosened bushings after a 12-ton press had failed" . . . "on repairing heat treat trolleys formerly destroyed every nut. Now Kroil saves them all, and time, too" . . .

You too should be using KROIL every day. Try it on money-back basis. Gallon $4.35; with Kroiler trigger squirt gun (shoots a drop or a stream 15 feet, if desired) $5.25; f. o. b. our factory.

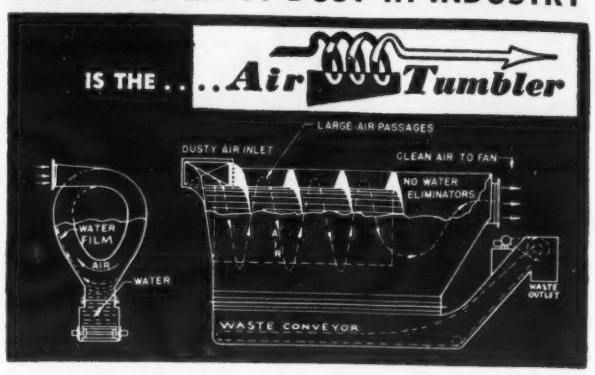
KANO LABORATORIES 1074 Thompson Lane, Nashville 11, Tenn.

KANO LABORATORIES

For more details circle NED-246 F1 on enclosed inquiry slip

The MASTER of DUST in INDUSTRY

IS THE . . . . Air Tumbler



The Wet Collector that becomes Standard Equipment wherever tried because it does a better job at less cost.

More than one million CFM in ONE plant

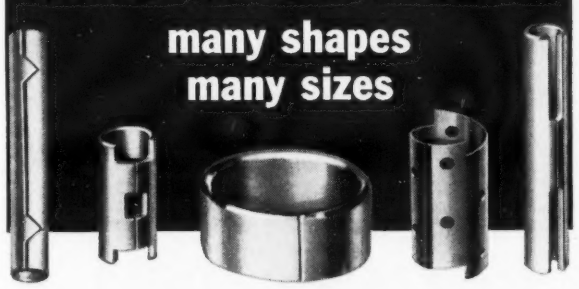
Write for Bulletin No. 601. Address:

DUST SUPPRESSION & ENGINEERING CO.
P. O. BOX 67 • LAKE ORION, MICHIGAN

For more details circle NED-247 F1 on enclosed inquiry slip

FORMED SPACER TUBES...

many shapes
many sizes



. . . at a saving over pipe and tubing!

Made from any formable metal—mild steel, copper, brass, bronze, aluminum, stainless steel.

Plating or finishing of any standard type—copper, zinc, nickel, cadmium, Parkerizing, Dulite.

Available in special shapes, tapers, seams, locks, and with ball indents for oil pockets . . . can be supplied copper-brazed to other components, and with copper-brazed seams. For free catalog, write to Federal-Mogul Division, 11079 Shoemaker, Detroit 13, Mich.

FEDERAL Mogul

FEDERAL-MOGUL sleeve bearings bushings-spacers thrust washers DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC.

For more details circle NED-248 F1 on enclosed inquiry slip

PORT-A-RAMP®

LIGHT-WEIGHT — NON-SKID WALKWAY PORTABLE — Brooks & Perkins *light-weight* Port-A-Ramp is the most improved portable ramp on the market today. Port-A-Ramp features a non-skid walkway which allows easy movement of material and increases safety. Port-A-Ramp is another member of the fine family of Brooks & Perkins . . . *Manufacturers of Magnesium and Aluminum Non-Powered Materials Handling Equipment.* Other products include: Dockboards—Hand Trucks—Stock Picking Trucks—Yard Ramps—Pallet Dollys—Pallets—Platform Trucks—Knockdown Racks. Write today for complete information on the Port-A-Ramp or any of the other products listed.

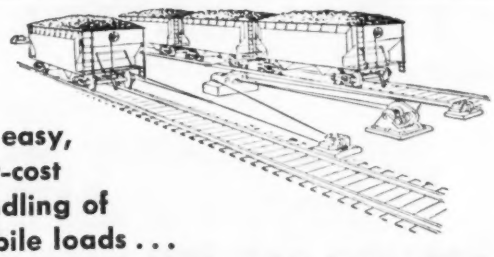
® REG. TRADEMARK

b+p

BROOKS & PERKINS, INC.
1928 W. Fort Street • Detroit 16, Michigan
Tel. TA 5-5900
Offices in Washington and New York

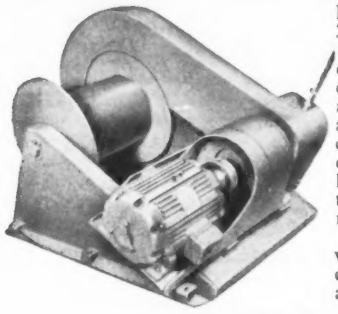
G-MH-6

For more details circle NED-249 F1 on enclosed inquiry slip



For easy, low-cost handling of mobile loads . . .

LINK-BELT DRUM-TYPE CAR PULLERS



Powerful enough to move 20 loaded freight cars (1000 tons), Link-Belt car pullers bring ease and economy to heavy haulage jobs. They're ideal for a wide variety of applications . . . moving freight cars and barges, dragging loaded skids, pulling materials in and out of furnaces, kilns, ovens.

Available *from stock* with single or double drums . . . in many types and capacities.

SEND FOR *NEW* BOOK 2892

LINK-BELT

CAR PULLERS AND CAR SPOTTERS

LINK-BELT COMPANY: Prudential Plaza, Chicago 1, Ill. 15,236

For more details circle NED-250 F1 on enclosed inquiry slip

New from AO

AO Flexible Mask Goggles

SAFER, MORE COMFORTABLE

These new AO Vinylite Mask Goggles give you four big improvements:

1. New lock tab and snap button holds lens securely in frame. Lens easily removed for cleaning or replacement.
2. New recessed slots fit *over and around* temples of safety (or regular) glasses, keep cup edge flush against face.
3. Greater eye cup depth allows more area for ventilation.
4. Improved flash around edge molds to facial contours.

Models available in impact goggles (482B), chemical goggles (484B), welding goggles (486B), or chipping and grinding goggles (489B). Contact your AO Safety Products Representative for prices.

Your Surest Protection . . . AO SURE-GUARD Goggles

American Optical COMPANY

SAFETY PRODUCTS DIVISION

Southbridge, Massachusetts

Safety Service Centers in Principal Cities

For more details circle NED-251 F1 on enclosed inquiry slip

GOODYEAR

4 Times the Life!

New Neothane Solid Industrial Tires by Goodyear outlast other tires up to 4 times—even when lugging 2 to 4 times the load normally carried on regular rubber tires. Here's why:

1 Neothane—Goodyear's polyurethane synthetic—wears like steel, rolls like rubber.

2 Rolls over metal chips, splinters, broken glass—with minimum cutting, gouging.

3 Won't swell or turn spongy after wading through water, grease, oil, solvents or acids.

Plus outstanding performance on heaviest loads to take rough going without damaging floors. See your Goodyear dealer for facts on new Neothane Industrial Tires or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from

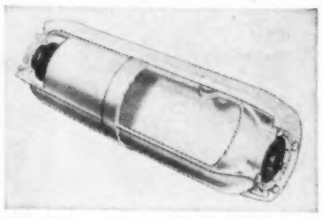
GOODYEAR

More tons are hauled on Goodyear truck tires than on any other kind

Neothane—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-252 F1 on enclosed inquiry slip

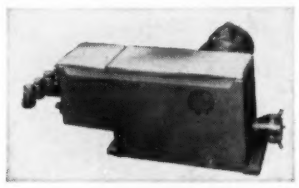
CHEMICAL STORAGE TANK combines plastic and metal shells



Seamless plastic inner shell and a strong aluminum outer shell comprise this Duo-Guard tank for storing acids, corrosive liquids, or hot water, or for ion exchange or demineralizing applications. Inner tank is available in either Kraylastic B or HTHT, with working temperatures of 185 and 225° F, respectively. Tank has a 4-in. opening at each end, Melamine tank end enclosures, and O-ring sealed slip end union adaptors for ¾-in. copper water tube. Rigid, molded two-piece Styrofoam insulation jacket is available. • **Bruner Corp.**, 4767 N. 32nd St., Milwaukee 9, Wis.

For more details circle NED-253 F1 on enclosed inquiry slip

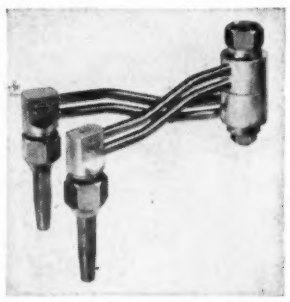
METERING PUMP low flow type with enclosed drive



Many types of liquids, including corrosive acids, toxic chemicals, and water treating chemicals, are accurately metered by the Milroyal low flow, controlled volume, metering pump. Pump can be equipped with a leakproof diaphragm or a conventional packed plunger liquid end. Capacity adjustments from 0 to 100 per cent are made while the pump is running, either manually or automatically by a control signal. All working parts of the enclosed drive operate in an oil bath. Capacities range from 0.89 gph for pressures up to 4470 psi to 88 gph at 170 psi. Up to nine units can be driven by one motor for special uses. Motors range from ¼ to 1 hp. • **Milton Roy Co.**, 1300 E. Mermaid Lane, Philadelphia 18, Pa.

For more details circle NED-254 F1 on enclosed inquiry slip

TWIN TORCH HOLDER has 1½ to 12-in. spread



Two cuts can be made in sheet and plate strip simultaneously using this TH-98 adjustable twin tip torch holder. The versatile accessory will operate on any gas on all Model 98-2 Harris machine cutting torches using Series 6290 cutting tips. It affords an adjustable spread from 1½ to 12 in. • **Harris Calorific Co.**, 5501 Cass Ave., Cleveland 2, Ohio.

For more details circle NED-255 F1 on enclosed inquiry slip

GOODYEAR

NEW Deep-Tread Pneumatic!

New Cross-Rib Pneumatic Industrial Tires bring you a new premium in performance. You get:

1 The same extra-deep tread design used on Hi-Miler Cross-Ribs—famed for extra mileage and superior traction in highway hauling service.

2 Scientifically toughened tire rubbers — unsurpassed for resistance to cutting—gouging—hard wear.

3 Exclusive 3-T Processed Cord body—triple-tempered for triple-toughness at a precise Tension and Temperature for an exact Time.

Top traction, extra long life — both are yours in the great new Cross-Rib Pneumatic Industrial Tire. Now available in 6.50 x 10 and 7.00 x 12 sizes. See your Goodyear Dealer. Or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from

GOODYEAR

More tons are hauled on Goodyear Truck Tires than on any other kind

Hi-Miler—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-256 F1 on enclosed inquiry slip

2978

MURPHY

STYLES A4VC (vertical) and A4HC (horizontal)

COMPRESSED AIR AFTERCOOLERS

SMALL UNITS

for small to medium sized compressed air installations

COOL compressed air, separate moisture and oil, and eject condensate.

BRING LARGE INSTALLATION EFFICIENCY TO SMALL INSTALLATIONS

Write now for FREE Data Sheet No. 2978

JAMCO

JAS. A. MURPHY & CO., INC.

1419 EAST HIGH STREET, HAMILTON, OHIO

For more details circle NED-257 F1 on enclosed inquiry slip

NEW Alnor PYROTROLLER® Series N

An electronic temperature controlling instrument that automatically controls the heat source to maintain a constant temperature within a set range.

Designed for temperature control on heat treating furnaces, ovens, heat sealing equipment, plastic moulding machines, cooking vessels, or any application where a precise uniform temperature must be maintained.

Various temperature ranges, −100° F. up to 3000° F. can be supplied to meet your requirements. Our engineering service is available for special applications.

Write for bulletin

Alnor INSTRUMENTS

ALNOR INSTRUMENT CO.

Division of

Illinois Testing Laboratories, Inc.

Rm. 529, 420 N. LaSalle St., Chicago 10, Ill.

For more details circle NED-258 F1 on enclosed inquiry slip

GOODYEAR

Steel-armored against punctures!

For the tough jobs use STEEL GUARD—rugged new pneumatic tire with built-in puncture-barrier. Here's why:

1 Heavy steel cables crisscrossed beneath tread make tire virtually puncturepoof.

2 Thick, sturdy tread absorbs punishing blows, insures better traction.

3 Pneumatic design means smooth ride for cargo and driver —plus stand-out stability and flotation.

Ask your Goodyear dealer about STEEL GUARD—it stands up even in foundry and brickyard service! Or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

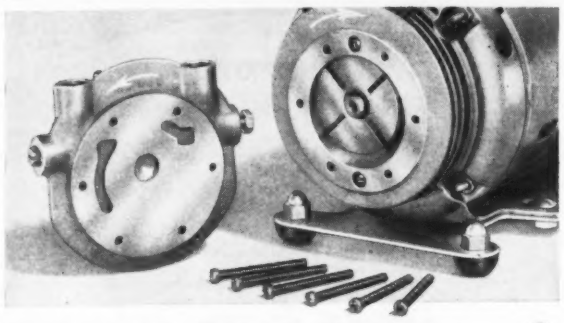
Lots of good things come from

GOODYEAR

More tons are hauled on Goodyear truck tires than on any other kind

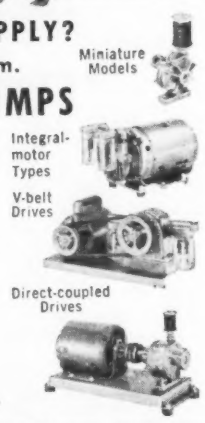
Steel Guard—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-259 F1 on enclosed inquiry slip



NEED AN OIL-FREE AIR SUPPLY?
Select sizes from .35 up to 24 c.f.m.

GAST OIL-LESS* AIR PUMPS



These Oil-less Air Compressors and Vacuum Pumps offer you:

1. Absolutely oil-free air delivery.
2. No lubrication required — no need to arrange access for oiling.
3. No oil to buy, no time spent in oiling.

Carbon vanes in rotor lubricate themselves. Ball bearings are grease-sealed for life and located outside pump chamber. Pressures to 10 p.s.i.g., vacuum to 20" Hg.

*Lubricated models also available.

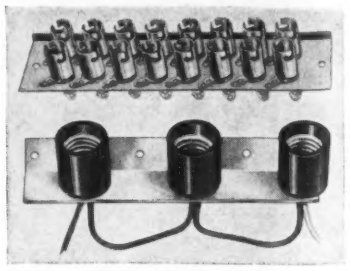
WRITE TODAY FOR "OIL-LESS" BULLETINS.

AIR MOTORS • VACUUM PUMPS • COMPRESSORS

GAST MANUFACTURING CORP.
P.O. BOX 117-R, BENTON HARBOR, MICHIGAN

For more details circle NED-260 F1 on enclosed inquiry slip

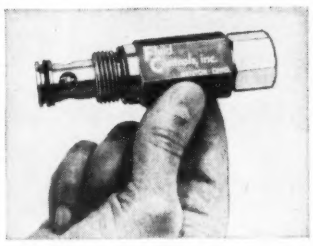
MULTIPLE LAMP SOCKETS
mounted on strips or plates



Complete assemblies of multiple lamp sockets, spaced and wired to specification and mounted on strips or plates, are available either grounded or insulated and with solder terminals or wire leads. Mounting brackets can be steel, brass, aluminum, or phenolic. Miniature screw and bayonet, candelabra screw and bayonet, and intermediate screw lamp bases are available. These assemblies make it possible to lay out a complete lighting pattern on one drawing and require the purchase of fewer parts. Prototypes can be supplied according to a submitted sketch or drawing. • **Leecraft Mfg. Co.**, 58 Greene St., New York 12, N. Y.

For more details circle NED-262 F1 on enclosed inquiry slip

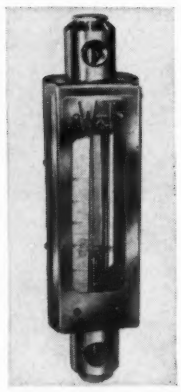
HYDRAULIC RELIEF VALVE
cartridge type handles 40 gpm



Adjustment ranges of 200 to 1000, 500 to 2000, and 1000 to 4000 psi are available in this differential piston relief valve cartridge for hydraulic systems. Less than 4 in. long and made from 1-in. hexagonal steel bar stock, it handles up to 40 gpm with low pressure rise. Low cost unit can be inserted into a simply machined cavity in a multivalve manifold or body. Extremely responsive to surge pressures, the low mass piston is essentially undamped through its short stroke. • **Fluid Controls, Inc.**, Box 186, Mentor, Ohio.

For more details circle NED-263 F1 on enclosed inquiry slip

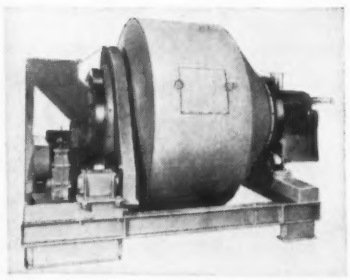
FLOW METERS
made in three stainless frame types



Glass tube models of Varea-meter fluid flow meters have capacities from 0.25 to 310 gpm of water, or 1.1 to 1300 cfm of air against up to 350 psi and 400° F. Tube diameters range from 3/8 to 3 in. with scale lengths of 5 or 10 in. Two types are available: Plain tube with a rod-guided float; or a tube with beads to guide the float. Open, standard enclosure, and pressure enclosure stainless steel frames are offered, the latter for use with hazardous fluids. Standard accuracy is ±2 per cent. Accessories include magnetic indicators for opaque liquids, light fixtures, heaters, frost guards, and a pneumatic transmitter for operating a remote indicator, recorder, integrator, or controller. • **Wallace & Tiernan Inc.**, 25 Main St., Belleville 9, N. J.

For more details circle NED-264 F1 on enclosed inquiry slip

ROTARY MIXER
sizes range from 30 to 120 cu ft



Acceptable blends of many ingredients are turned out in as little as 1½ minutes by this heavy duty mixer, equipped for automatic and remote control. The dusttight, leakproof machine discharges clean in 1 min or less. Wear-resistant materials are incorporated in the machine, and wear plates for intake and discharge spouts and internal lifters are renewable. Vent connections provide for closed system operation. Primary drive uses V-belts from the motor to a countershaft-mounted torque arm type speed reducer. Mixer is made in sizes from 30 to 120 cu ft, with the largest capable of turning out 6-ton batches every 4 min. • **Munson Mill Machinery Co.**, 205 Seward Ave., Utica, N. Y.

For more details circle NED-265 F1 on enclosed inquiry slip

TRIAL SAMPLE
Of World-Famous WHITMORE'S Lubricants For Roller, Ball, Sleeve Bearings

WHITMORE'S ANTI-FRICTION COMPOSITIONS HAVE NO MELTING OR DROPPING POINT

Packaged in 14½ oz. cartridges for handy application with lever-type cartridge guns for constant protection to roller, ball, sleeve bearings and sliding surfaces in "hot" bearing applications or in areas with high ambient heat. Exclusive formulas have no melting or dropping point; moisture resistant; will not wash out; exceptional metal adherence properties; temperature reducing qualities; high extreme pressure values. Available in two grades. Whitmore's Anti-Friction Composition No. 1 (light density), recommended for high speed, high temperature applications. Anti-Friction Composition No. 2 (heavy density), for low-speed high-temperature applications or loosely-fitted bearings. Specify No. when requesting free trial sample.

68 YEARS OF LEADERSHIP LUBRICATING THE FOLLOWING:

- Open Gears, Dipper Sticks, Cams
- Open and Enclosed Chain
- Hydraulic Units, Torque Converters
- Speed Reducers
- Enclosed Gear Cases
- Roller, Ball, and Sleeve Bearings
- Wire Rope and Cable

Est. 1893
THE WHITMORE MANUFACTURING CO.
LUBRICATING ENGINEERS
CLEVELAND 4, OHIO • VULCAN 3-7272

For more details circle NED-266 F1 on enclosed inquiry slip

EXTRA TEMPERATURE PROTECTION
TWIN-LINED NEOPRENE PACEMAKER HOT 'N COLD 225

Liquidtight insulation from extreme hot and cold is provided by a liner of double-napped flannel inside a neoprene coated flannel shell. Bar-tacked fingertips secure the liner. Mahogany Red with safe non-slip finish, in 12" gauntlet style. Write for your copy of the Pioneer Buying Guide Wall Chart . . .

The PIONEER Rubber Company, 234 Tiffin Road, Willard, Ohio

For more details circle NED-261 F1 on enclosed inquiry slip

EXTRA COMFORT CHEMICAL PROTECTION
FLOCK-LINED NEOPRENE STANZOIL NS-35

Lined with millions of tiny cotton fibers bonded to the inner surface to make it easy to slip on and off. Of chemical resistant Milled DuPont Neoprene. Embossed non-slip grip. S-M-L sizes. Choose the right glove for every job with Pioneer's Foolproof Glove Selector. Write for your copy . . .

The PIONEER Rubber Company, 234 Tiffin Road, Willard, Ohio

For more details circle NED-267 F1 on enclosed inquiry slip

VERSATILE
GENERAL ELECTRIC
DRUM SWITCH

General Electric's CR102 Reversing Drum Switch is your best method for reliable, inexpensive manual control of single-speed motors up to two hp, 600 volts ac. This durable switch has many convenience features to save installation and modification time. For instance, no tools needed to change from maintained to spring-return contact. And operators like the "positive feel" of this compact unit. Typical applications are woodworking, metalworking, and materials handling equipment.

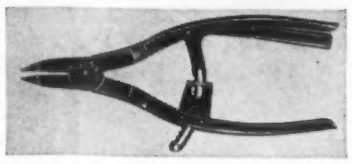
FREE PUBLICATION — Ask your G-E Representative for Publication GEA-7000 or write to Section 813-35, General Electric Co., Schenectady 5, N. Y.

Progress Is Our Most Important Product

GENERAL ELECTRIC

For more details circle NED-268 F1 on enclosed inquiry slip

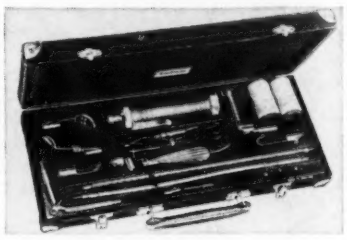
RETAINING RING PLIERS
apply internal and external rings



Double ratchet construction of two heavy duty retaining ring pliers minimizes the effort necessary to spread or compress the rings. They lock at any given point of expansion or contraction. No. 5R pliers accommodate Truarc internal rings in diameters from 1.812 to 4 in. No. 6R pliers expand external rings in sizes from 1.188 to 4.375 in. Both types have replaceable tips bent to a 15-degree angle to facilitate ring assembly and disassembly. Tips with 45 and 90 degree angles are also offered. Tip diameters are 0.087 and 0.116 in. Price with standard tips is $7.75. • **Waldes Kohinoor, Inc.**, 47-16 Austel Place, Long Island City, 1, N. Y.

For more details circle NED-270 F1 on enclosed inquiry slip

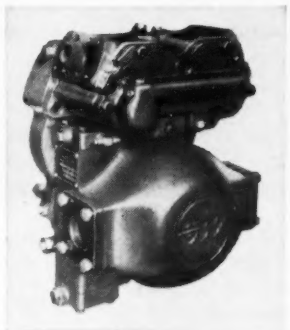
CAVITY INSPECTION SET
places high intensity light in area



Seventeen interchangeable components of this medical type inspection set permit optical examination of cavities or remote areas. A high intensity light ray is directed into the selected area and an image of the lighted surface is provided for the operator. Probes furnished are a 12-in. long straight, 12-in. long flexible, and 5-in. long fixed right angle unit, plus a 2-in. flexible extension for use with the other probes. Attachments include a magnet and hook for recovering lost objects. Three high intensity medical lamps are included in the set, packaged in a leatherette covered wood case. Price is $57.50. • **Ealing Co.**, 2224 Massachusetts Ave., Cambridge, Mass.

For more details circle NED-271 F1 on enclosed inquiry slip

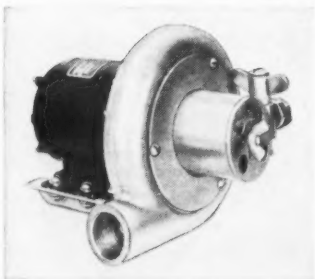
VARIABLE VOLUME PUMP
hydraulic unit for mobile equipment



Only the amount of oil required to do the job is pumped by the Variac variable volume, piston-type hydraulic pump, for self-propelled machinery. Applications include crawler tractors, hydraulic components of rail and industrial equipment, and the hydraulic drive of self-propelled equipment. A nine-piston assembly rotates with the cylinder block and, when tilted, each piston sucks oil into the block during half of the rotation and forces it out during the other half. The greater the tilt, the greater the volume. At relief setting, the piston assembly automatically returns to neutral and oil flow stops. Designed for high pressure and high speed operation, the pump has a 143-gpm capacity. • **Gar Wood Industries, Inc.**, 36253 Michigan Ave., Wayne, Mich.

For more details circle NED-272 F1 on enclosed inquiry slip

AIR-GAS MIXER
delivers under pressure to burner



Designed for firing installations requiring inputs up to 215,000 Btu/hr, the Star-Sixties Minimixer has a diameter of less than 6½ in. It produces an air-gas mixture and delivers it under pressure to a burner or series of burners in small heating applications where a blast pilot is desired and where no other source of air pressure is available. Inlet gas pressure of 4 in. is adequate to give full rated capacity. Firing can be at a fixed rate, or automatic on-off control is provided by a solenoid valve in the gas line feeding the mixer. Fan type unit has a 1/25-hp motor and an adjustable orifice. • **Eclipse Fuel Engineering Co.**, 1100 Buchanan St., Rockford, Ill.

For more details circle NED-273 F1 on enclosed inquiry slip

FLAME-RESISTANT

Arno® DUCTAPE

FOR DUCTS AND INSULATION

- Complies with all building codes for flame-resistant duct tapes.
- Self-adhesive . . . sticks to any duct material or insulation.
- Will not support flame . . . holds firmly at high temperatures.
- Nothing to mix . . . saves labor.
- Vaporproof . . . waterproof.
- Meets ASTM standards.

Manufacturers Agents Wanted for Some Selected Areas

Write for FREE test sample!

ARNO ADHESIVE TAPES, INC.
Dr. Scholl's Adhesive Tape Division
5220 Ohio St., Michigan City, Ind.

For more details circle NED-274 F1 on enclosed inquiry slip

3 TIMES MORE WEAR
THAN ORDINARY COATED GLOVES
MULTI-PLI PACEMAKERS

This new Pioneer Pacemaker cushions wear with reinforcement on palm and thumb crotch. Glove coating of black liquidproof neoprene is extra-thick on heavy wear areas. Knit-wrist, or 12" or 14½" gauntlet styles. Write for Multi-Pli Catalog Sheet.

The PIONEER Rubber Company, 234 Tiffin Road, Willard, Ohio

For more details circle NED-269 F1 on enclosed inquiry slip

BARE-HAND DEXTERITY
SHEERER THAN A SURGICAL GLOVE
NIMBLE FINGERS

Protect your products from handling. Of tissue-thin, liquidproof Pylox™, textured inside to provide a non-slip grip when reversed. S–M–L–XL sizes. Check all Pioneer styles in your free copy of the Industrial Glove Catalog. Just write to . . .

The PIONEER Rubber Company, 234 Tiffin Road, Willard, Ohio

For more details circle NED-275 F1 on enclosed inquiry slip

Babbitt *Adjustable* **SPROCKET RIM**
with Chain Guide
CHANGES THAT DANGER ZONE TO A SAFETY ZONE

enables you to
ADD PLANT AREA

If re-aligning equipment will yield more working space, better production, lower costs . . . do it now. Save all space wasted for placing ladders to reach overhead valves. At the same time, convert Danger Zones to Safety Zones. Equip every overhead valve wheel in your plant with Babbitt Adjustable Sprocket Rims with Chain Guides.

- They simplify pipe layout.
- They fit any size valve wheel.
- They are easy to install and operate.
- They operate any valve from the floor.
- They save time and money.
- The first cost is only cost (no maintenance).
- They are packed completely assembled (one to a carton), with easy-to-follow instructions.
- A hot-galvanized rust proof chain is available for all sizes.

Babbitt Adjustable Sprocket Rims with Chain Guide are carried in stock by most mill supply houses. Just phone your mill supply salesman, or contact us direct.

Babbitt STEAM SPECIALTY CO.
16 BABBITT SQUARE, NEW BEDFORD, MASS., U. S. A.
For more details circle NED-276 F1 on enclosed inquiry slip

UNIVERSAL
SELECT "O" RING KITS

Fills Replacement Needs on 85% of All Industrial Equipment

- ★ 180 "O" Rings in Each Kit — Sizes 1 to 25.
- ★ Patented Plastic Case Shows You "O" Ring Sizes in Kit at a Glance!
- ★ Interchange Data of All Leading "O" Ring Producers in Each Kit — All Manufacturers' Numbers Converted to Universal Numbers.
- ★ Buy Replacement Back-up Washers in these "O" Ring Sizes.

TEFLON	$115.95
BUTYL RUBBER	$ 47.95
STANDARD COMMERCIAL (Buna N)	$ 24.50
STANDARD SILICONE RUBBER	$ 66.90
VIM LEATHER BACK-UP WASHERS	$ 28.75
SELECT-O-RING KITS IN VITON	$124.50
AN 6227 SERIES	$ 59.50

RETAINING RING
ECON-O-KIT

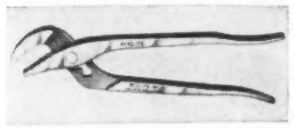
400 Truarc Cadmium Plated Rings — 84 Sizes — 70% of Ring Sizes Used in Industry

Save—eliminate many purchase orders for small quantities of retaining rings — Get most sizes used on your equipment with only ONE order — in one shockproof, plastic case. Sizes from ¼ to 2½ inches in the three most used Truarc series of internal, external and universal crescent ring designs. All rings meet National Aircraft Standards NAS 669 and NAS 670. Low priced at $34.50 per kit.

Installation and removal tools also available.

Packaged Merchandise Co.
3067 W. 117th St. • Cleveland 11, Ohio
For more details circle NED-277 F1 on enclosed inquiry slip

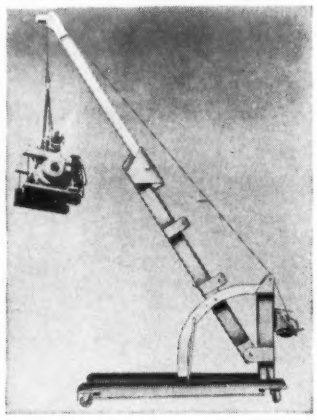
FORGED UTILITY PLIERS
extra-thin 7 and 10-in. models



Forged alloy steel utility pliers in 7 and 10-in. lengths have strong box joint construction and flush-ground rivet pin. Models measure only 5/16 and ½ in. at the thickest point, respectively, and have maximum jaw openings of 1 1/16 and 1½ in. Pliers are used on flat, square, hex, or round-shaped objects, producing powerful leverage in each of four gripping positions with no sideways twist or strain. Mirror finish plating is rust resisting. • **Xcelite, Inc.**, Orchard Park, N. Y.

For more details circle NED-278 F1 on enclosed inquiry slip

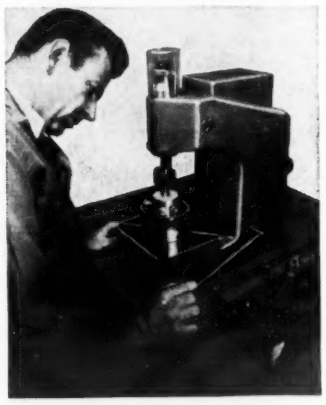
SELF-RAISING BOOM & HOIST
one-winch unit handles 2000 lb



A single winch adjusts the boom height and lifts the load in the Handy Loader, a self-raising adjustable boom and hoist combination. Only 6 ft high in closed position, boom adjusts to 10, 14, and 18-ft heights. Unit will handle loads up to 2000 lb and has free-wheeling ball bearing casters. • **General Hoist & Equipment Co.**, 2772 Norton Ave., Lynwood, Calif.

For more details circle NED-279 F1 on enclosed inquiry slip

PNEUMATIC PRESS
press-assembles small parts



Accurate assembly and working of small metal parts without breakage or distortion can be done on this French-made PH-3 pneumatic press. Speeds of up and down strokes are independently controlled to produce strong yet gentle action which squeezes the work without impact. Precision meets the most rigid requirements. Press is shown simultaneously pressing and staking gears into pinions. This assembly passes inspection based on pinion diameter and face runout of 0.0001 in. per 1 in. of radius. • **Howard International, Inc.**, 350 Fifth Ave., New York 1, N. Y.

For more details circle NED-280 F1 on enclosed inquiry slip

SEALMASTER® "L" SERIES

A HIGH QUALITY LINE OF MALLEABLE HOUSED BEARING UNITS AND BEARINGS AT A COST THAT IS WARRANTED ON YOUR MACHINE!

- SELF-ALIGNING
- ONE-PIECE MALLEABLE HOUSING
- PERMANENTLY SEALED
- EASY RACE TO SHAFT LOCK

Available in pillow blocks and two or three bolt flange units for flush or recessed mountings. All units in the "L" Series available with the new SEALMASTER contact type seal.

LP PILLOW BLOCK — LFT FLANGE UNIT — LF FLANGE UNIT

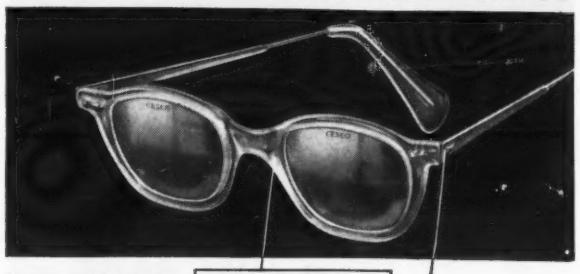
WRITE FOR BULLETIN 359

SEALMASTER BEARINGS
A DIVISION OF
STEPHENS-ADAMSON MFG. CO.
12 RIDGEWAY AVENUE
AURORA, ILLINOIS
Plants Located in: Los Angeles, Calif. Clarksdale, Miss • Belleville, Ontario

SEALMASTER® BALL BEARING UNITS

For more details circle NED-281 F1 on enclosed inquiry slip

1 Frame with 2 Universal Features



New CESCO Polyfit Bridge and New CESCO Interchangeable Temples

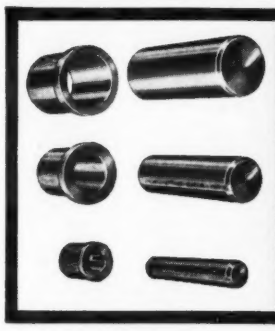
• New CESCO Polyfit frames have not one but two features to make them adaptable to the widest range of nose and facial contours. New Polyfit frames feature gleaming nickel-silver temples which are interchangeable with other CESCO plastic frame glasses or with most safety glasses equipped with 5-barrel hinges. Tapered temples, fastened with Sur-Loc pins, come in two styles—cable or spatula. Polyfit frames in flesh tone plastic are available with or without side shields.

- Your choice of two sizes: No. 316 (46 x 39mm), No. 318 (48 x 41mm)
- Popular F7 shape lenses are removable for easy "on-the-spot" repair

Ask your distributor to show the new CESCO Polyfit safety glasses. There's a CESCO distributor in most major cities

CESCO FOR SAFETY
CHICAGO EYE SHIELD COMPANY
2715 W. Roscoe St., Chicago 18, Illinois

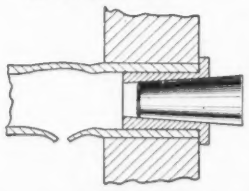
For more details circle NED-282 F1 on enclosed inquiry slip



2-piece design of ELLIOTT TUBE PLUGS offers many advantages

For Condenser and Heat Exchanger Tubes

- Quickly and effectively seals off leaky tubes without damage to tube sheets.
- Matching tapered ring and pin engineered for easy installation and dependable service.
- Designed to give even expansion of pin to ring and long contact to the seal.



EASY APPLICATION

- Place ring in tube
- Insert pin in ring, tap lightly until seated
- A few sharp blows with hammer make tight, effective seal

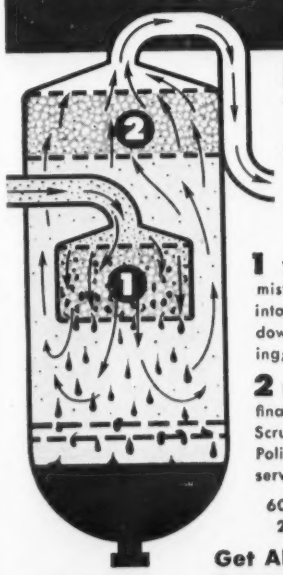
Available in brass, steel, stainless steel and aluminum.

YI-5

ELLIOTT COMPANY
GENERAL OFFICES: JEANNETTE, PENNSYLVANIA
PLANTS AT: Jeannette and Ridgway, Pa.; Springfield, Ohio; Newark, N. J.

For more details circle NED-283 F1 on enclosed inquiry slip

NEW! *King* COMPRESSED AIR FILTERS



Remove ALL Harmful Traces of Dirt, Water and Oil — *Go Months Without Maintenance!*

HERE'S HOW:

1 WET SCRUBBER CARTRIDGE causes mist and fog to form large drops that fall into sump. Takes out dirt, water and oil down to less than 2 microns. Self-cleaning; has almost unlimited service life.

2 DRY POLISHER CARTRIDGE gives the final touch; leaves the air extra-clean. Scrubber does nearly all the work, so Polisher also has almost unlimited service life.

60 MODELS — FOR EVERY SERVICE
20 to 200 scfm — ¼" to 2" NPT

Get ALL the facts! Write today for free KING FILTER CATALOG.

KING ENGINEERING CORP.
3223 S. State St. Ann Arbor, Mich.
LIQUID LEVEL GAGES, MANOMETERS, ACCESSORIES—SINCE 1937

For more details circle NED-284 F1 on enclosed inquiry slip

SERIES 300 PROPORTIONING PUMPS

ADJUSTABLE IN OPERATION FROM ZERO TO FULL CAPACITY

For maximum versatility and absolute minimum maintenance the Series 300 incorporates these quality American design features:

- Interchangeable liquid ends.
- New cam adjustment mechanism controls pump plunger stroke from any point from zero to maximum output.
- Compact housing—all moving parts enclosed
- E-Z Clean Cartridge Valves for simple maintenance.
- Plunger (diameters from 1/4" to 2 3/4") serviceable without disturbing the adjustment mechanism.

Available with plungers and liquid end in ceramics, chrome plate stainless steel. Remote or automatic controls also available. Write American Meter Company for full details.

AMERICAN METER COMPANY INCORPORATED ESTABLISHED 1836
pump division
13500 PHILMONT AVE., PHILADELPHIA 16, PENN.

For more details circle NED-285 F1 on enclosed inquiry slip

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temperature and pressure extremes require ACHESON MOLY & GRAPHITE-fortified compounds for unparalleled performance

★★★★★★★★★★★★★★★★★★★★★★★★

in: METALWORKING LUBRICANTS

ASSEMBLY AND RUN-IN

MOLD COATINGS

ELECTRICALLY CONDUCTIVE FILMS

PARTING AGENTS

SOLID FILM LUBRICATION

Specific application recommendations and product data available on request.

ACHESON COLLOIDS COMPANY
Port Huron, Michigan

For more details circle NED-286 F1 on enclosed inquiry slip

Pressure-feed SPRAY OUTFIT for small paint jobs

The lightweight DeVilbiss pressure-feed spray outfit is easy to maneuver . . . applies all paint materials with the speed of a large-capacity outfit. Short hose lines from cup to gun permit fast and simple color changes and clean-up.

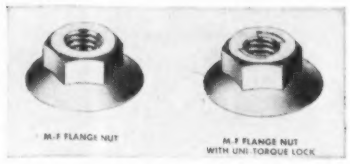
Sprays primers, latex-base, alkyds, enamels, multi-color, varnishes, or lacquers. Two-quart cup lets you complete jobs without frequent refills. Fingertip controls provide precise air and fluid adjustments. Write for catalog.

DEVILBISS

THE DEVILBISS COMPANY
Toledo 1, Ohio
Branch Offices in Principal Cities

For more details circle NED-287 F1 on enclosed inquiry slip

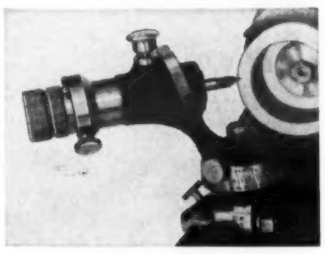
FLANGE NUT combines nut and washer in one piece



Need for extra washers is eliminated with use of this M-F Flange Nut which combines both nut and washer in one cold-forged piece. It can be used to bridge oversize holes, provide extra bearing, and to maintain pressure in vibration absorbers. Nut is also available with the Uni-Torque locking feature in a wide range of sizes. • **MacLean-Fogg Lock Nut Co.**, 5535 N. Wolcott Ave., Chicago 40, Ill.

For more details circle NED-288 F1 on enclosed inquiry slip

CUTTER GRINDER for engraving and routing cutters



Single lip engraving and routing cutters are sharpened to any side angle or shape by the Model CG-21 universal cutter grinder. It also sharpens ball and round nose cutters. With its index unit, it will grind two, three, or four-sided cutters. The cutter head is graduated for side angle, side clearance, and tip or end rake. Machine accommodates split collets for straight shank cutters with diameters to 1/4 in. and internal taper collets for standard tapered shank cutters. The cup shaped, 2 1/4-in. diameter grinding wheel is mounted directly on the 10,000-rpm ball bearing motor. Wheels for high speed steel cutters are stocked in 60, 80, and 100-grit and diamond impregnated wheels for tungsten carbide cutters are offered in 100, 240, and 500-mesh. • **H. P. Preis Engraving Machine Co.**, 252 U. S. Highway 22, Hillside, N. J.

For more details circle NED-289 F1 on enclosed inquiry slip

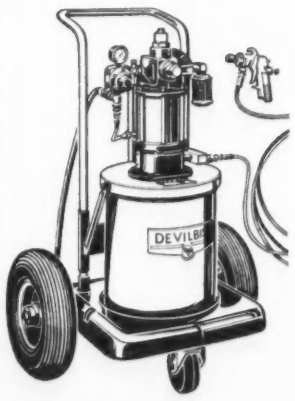
LP-GAS VAPORIZER 40-gph unit for drying, dehydrating

Algas Model 40/40 direct-fired LP-gas, vaporizer with rated capacity of 40 gph finds small-industry application in warehouse heating, crop drying, curing, dehydrating, and other processes. It has double protection against liquid carry-over, ASME Fired Pressure Vessel Code heater exchanger, and baked enamel finish on inside and outside of the case. •**American Liquid Gas Corp.**, 1109 Santa Fe Ave., Los Angeles 21, Calif.

For more details circle NED-290 F1 on enclosed inquiry slip

AIRLESS SPRAY paints big areas fast

DeVilbiss brings you the latest refinements in airless spraying with this new portable outfit. Even heaviest materials can be sprayed with utmost speed giving you a full, even, wet coat for best possible appearance and protection.



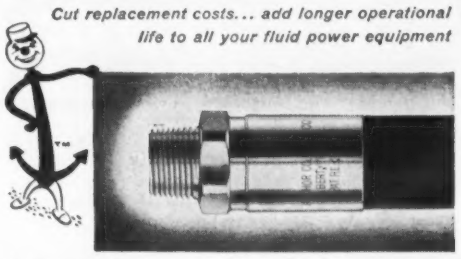
DeVilbiss airless spray outfit may be equipped with one or two high-production guns. Delivers from 5- or 10-gallon pail. Specially engineered pump gives long, dependable service. Pump models for 55-gallon drums also available. Call your nearest DeVilbiss supplier, or write: The DeVilbiss Company, Toledo 1, Ohio.

FOR TOTAL SERVICE, CALL **DEVILBISS**

For more details circle NED-291 F1 on enclosed inquiry slip

NO LEAKS or BLOW-OFFS with ANCHOR PRESSED-ON HYDRAULIC HOSE ASSEMBLIES

Cut replacement costs... add longer operational life to all your fluid power equipment



Anchor's complete line of Pressed-On Hydraulic Hose Assemblies . . . the "standard" for original equipment because of their superior, time-tested and performance - proven features . . . gives you positive assurance against leaks or blow-offs for the life of the hose.

Whatever the fluid power application—high, medium, low pressures . . . suction . . . special purpose . . . Anchor Pressed-On Hydraulic Hose Assemblies are available with thread sizes to meet practically all your replacement requirements.

Your nearest Anchor distributor will show you the many "built-in" features of Anchor Pressed-On Hydraulic Hose Assemblies . . . Anchor's "Pledge of Performance" guarantees their replacement worth.

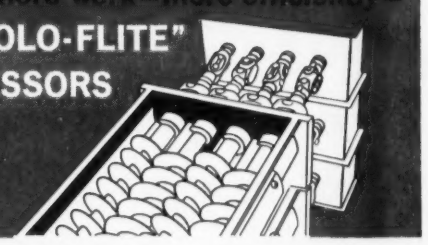
Andy Anchor says:

"Your Anchor distributor can give you detailed information on Pressed-On Hydraulic Hose Assemblies to meet your applications . . . or write direct."

ANCHOR Coupling Co. Inc.
Box 111, Dept. GG, Libertyville, Ill.
Branch Plants: Dallas, Tex., Plymouth, Mich.

For more details circle NED-292 F1 on enclosed inquiry slip

Heat exchange a problem? Handle more work—more efficiently—with "HOLO-FLITE" PROCESSORS



The secret is **continuous** bulk flow operation — far faster and more efficient than batch processing. Heating or cooling fluid circulates through the hollow shaft and flights of a conveyor screw, thus processing granulars, fluids, or sludges as they flow along. Gentle conveying action minimizes particle degradation and dusting. Broad operating range. Heats to 500°F; cooling range, 1800°F to 0°F. Multiple "Holo-Flite" tiers can be stacked for high capacities in minimum floor space.

FREE LITERATURE. Write today to Western Precipitation, 1000 W. 9th St., Los Angeles 54, Calif. (In Canada, write 8285 Mountain Sights Ave., Montreal, P. Q.)

WESTERN PRECIPITATION
DIVISION OF JOY MANUFACTURING COMPANY

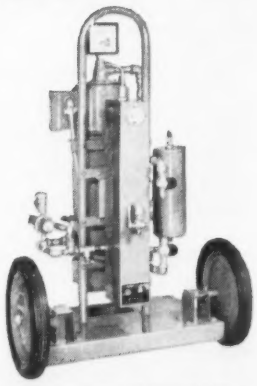
For more details circle NED-293 F1 on enclosed inquiry slip

PORTABLE HOT-SPRAY OUTFIT for heavier coats... less overspray

Benefit fully from the time-saving, labor-saving, money-saving advantages of hot spray. Paint anywhere with a DeVilbiss Portable Heater.

DeVilbiss hot spray puts more paint on the surface with less wasteful overspray. For it thins paint with heat; allows easier atomization with up to 50% reduction in spraying pressure.

By applying heavier coats, you get the desired film-build with fewer passes over the surface. And the better flow-out of heated materials means smoother, glossier finishes, too. Call your DeVilbiss supplier, or write us today.



DEVILBISS

THE DEVILBISS COMPANY
Toledo 1, Ohio
Branch offices in Principal Cities

For more details circle NED-294 F1 on enclosed inquiry slip

FREE

56-PAGE CATALOG

of these and many other

INSTRUMENTS AND EQUIPMENT

for production and research

- Thermometers . . . Stem, Surface, Pipe, Max.-Min., Hygrometer, Recording, etc.
- Pyrometers . . . Portable, Probe, Surface, etc.
- Humidity Indicators
- Ear Valves
- Electric Furnaces & Kilns
- Portable Steel Hardness Testers
- One-Ton Press
- Dial Test Indicators & Gauges
- Industrial Timers
- Planimeters
- Pantographs
- Portable Drafting Machines
- Microscopes . . . Industrial, etc.
- Polariscopes
- Magnifiers
- Beam Compasses
- Radiation Detectors
- Precision Drill Chucks (Small)
- Pocket Comparators
- Miniature Blow Torches
- Technical And Professional Handbooks

Immediate deliveries from stock. Net 30 days on company purchase order. Personal checks accepted.

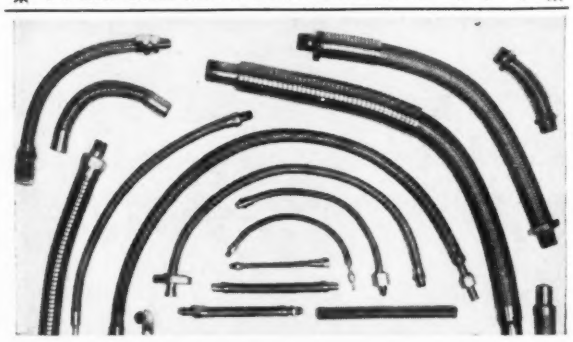
SATISFACTION GUARANTEED OR MONEY CHEERFULLY AND QUICKLY REFUNDED

Write for your free catalog today!

AMERICAN INDUSTRIAL & SCIENTIFIC CO.

Dept. ND-61, 11840 W. Pico Blvd., Los Angeles 64, Calif.

For more details circle NED-295 F1 on enclosed inquiry slip



PROBLEM SOLVERS — Anaconda flexible metal hose and tubing

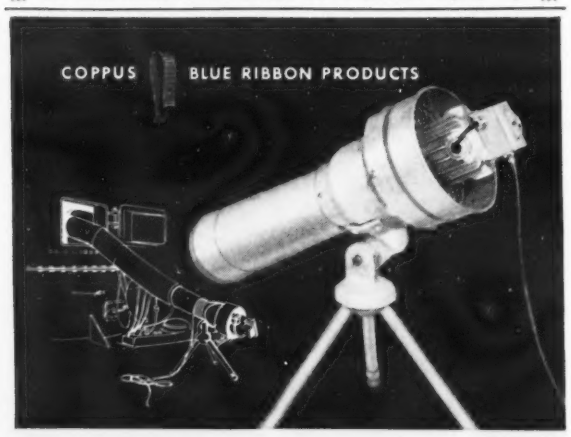
It's a sure thing that your products encounter piping problems: expansion, contraction, movement, vibration, corrosion, pressures or temperatures. Anaconda flexible metal hose and tubing are solving these problems in all kinds of installations from laundry machines to missiles. Flexible metal hose assemblies are available in copper alloys, stainless steel, other steel alloys, Monel, aluminum and Teflon. Sizes range from ⅛" to 16" I.D.

SALES ENGINEERING CONSULTING SERVICES

For on-the-job services that follow through from original design to finished product, write: Anaconda Metal Hose, P. O. Box 791, Waterbury 20, Conn.

ANACONDA® METAL HOSE

For more details circle NED-296 F1 on enclosed inquiry slip



COPPUS "Blue Ribbon" Vano Ventilators are portable and easily adaptable to practically any "fresh-air" requirement in industry. Mail coupon below for facts.

COPPUS ENGINEERING CORP.
406 Park Avenue, Worcester 10, Mass.

- ☐ in tanks, tank cars
- ☐ in underground manholes
- ☐ for exhausting welding fumes
- ☐ on boiler repair jobs
- ☐ for general man cooling
- ☐ to stir up stagnant air wherever men are working or material is drying

Name .....
Company .....
Address .....
City .....

COPPUS BLOWERS

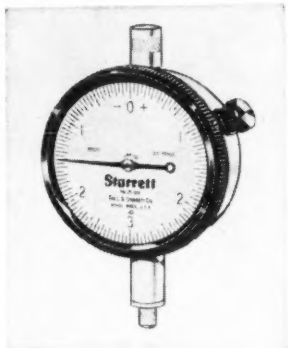
For more details circle NED-297 F1 on enclosed inquiry slip

AIR COMPRESSOR
portable unit cooled by forced air

Weighing 27 lb including its ⅓-hp motor, the Power Aire portable air compressor delivers clean, oil-free air at 1.8 cfm and 50-psi. It has a new forced air internal cooling system which improves operation by reducing the operating temperature from 20 to 60° F below units that are externally cooled. Result is reported to be higher compressor efficiency, reduced wear, and long bearing life. • **Johnson Service Co.**, Compressor Div., 507 E. Michigan St., Milwaukee 1, Wis.

For more details circle NED-298 F1 on enclosed inquiry slip

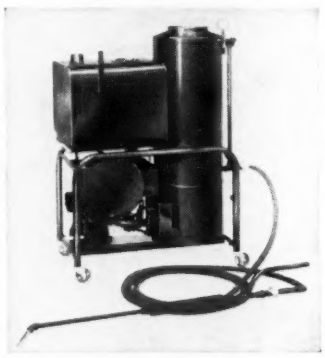
DIAL INDICATORS
have total range of 0.015 in.



Two high precision dial indicators have an AGD accuracy of ±0.0005 in. for their 0.015-in., two and one-half turn total range. Indicator No. 25-109 has a range of 0-3-0 and one revolution of 0.006 in. No. 25-209 indicator is a continuous dial model reading 0-6, with one revolution of 0.006 in. Both have jeweled bearings. • **L. S. Starrett Co.**, Athol, Mass.

For more details circle NED-299 F1 on enclosed inquiry slip

MOBILE STEAM CLEANER
has 60 to 100-psi pressure range

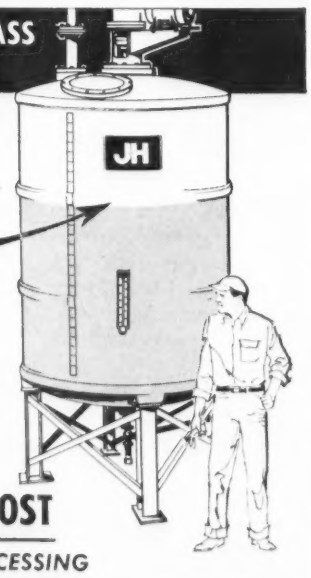


Limited cleaning jobs as well as larger operations can be handled by caster-mounted Model 100 oil-fired steam cleaner. Pressure in the 60 to 100-psi range is maintained to within ±1 psi of setting by a nonfluctuating pressure control. Features include an air-atomizing burner which assures complete combustion, an orifice-in-nozzle which develops a straight-ahead cleaning stream without fogging, and a one-wire braid steam hose. Delivered price is $515. • **Malsbary Mfg. Co.**, 845 92nd Ave., Oakland 3, Calif.

For more details circle NED-300 F1 on enclosed inquiry slip

JH FIBERGLASS PLASTIC

TANKS



VISIBLE LEVEL MOLDED-IN GAUGE

MORE- **CORROSION RESISTANT than stainless steel**

LESS- **than HALF the COST**

for STORAGE & PROCESSING

50 to 70,000 gallon J&H Fiberglass Plastic Tanks are self-supporting. Resist nearly every conceivable chemical. Are glass smooth inside. Require no painting outside. Translucent walls prove flawless construction; permit visual monitoring of liquid level. Eight standard diameters, from 24 inches to 24 feet in nearly unlimited height or length, are mass produced for immediate delivery. Outlets placed to your requirements. Write for brochure and price list.

Also PIPING TUBING & CUSTOM FABRICATION

JONES & HUNT INC. 104 Emerson Ave., Gloucester, Mass.

For more details circle NED-301 F1 on enclosed inquiry slip

NEW PLASTIC MATERIALS
repairs floor cracks

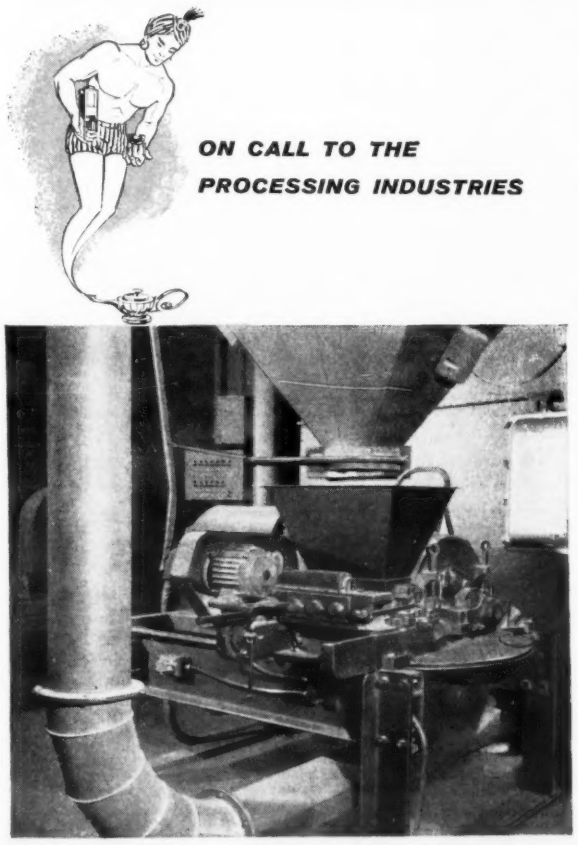
Before After

A new plastic material, formulated for the specific purpose of repairing floor cracks and preventing surface deterioration, is announced by The Monroe Company, Inc., Cleveland. Known as "Jiffy Floor", it is a fine granular, ready-to-use plastic product that can be applied without interfering with production or traffic. It readily fills hairline cracks, shallow holes, spalled floors or expansion joints. Immediately after application, it will withstand heaviest loads.

Jiffy Floor contains no asphalt, cement, sand or gravel. It will not crack, crumble or curl . . . is not affected by temperature changes . . . can be applied indoors or out.

Jiffy Floor is waterproof, dustless, skid-proof and noiseless. Available in 5-10-30 and 55-gallon drums, ready for easy use. For further information write **The Monroe Company, Inc.**, 10702 Quebec Avenue, Cleveland 6, Ohio. *Advt.*

For more details circle NED-302 F1 on enclosed inquiry slip

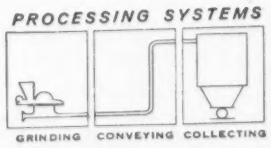


MIKRO-PULSAIRE and MIKRO-PULVERIZER
Installation Doubles Production!

Meer Corporation, Bergen, N. J., employs a unique 3-level automatic milling operation to handle gum arabic. A MIKRO-PULSAIRE Dust Collector serves as receiver-filter in an air-conveying system which insures a constant high-volume flow of materials between all units in the installation, including a No. 4 MIKRO-PULVERIZER, as shown above. Results are better quality control and virtually doubled production. We'd like to show you how MIKRO-Products . . . and the specialists who design, produce and service MIKRO units . . . can do just such a job for you.

MIKRO-Products
PULVERIZING MACHINERY COMPANY
28 Chatham Rd., Summit, N. J.
A Division of American-Marietta Company

PROCESSING SYSTEMS



Represented throughout the world in sales, service and manufacturing facilities.

For more details circle NED-303 F1 on enclosed inquiry slip

"ponbake"

A new finish for Blaw-Knox Grating for better wear—and corrosion-resistance

By the time most grating is erected, much of the normal factory-applied coating is worn off. Unless it is repainted at once, costly corrosion starts to take its toll.

However, "Ponbake," the new epon base, high polymer synthetic paint process, developed by Blaw-Knox especially for grating, stays factory-new almost regardless of the treatment it gets.

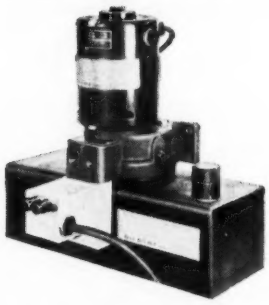
This is the most rugged, durable finish available on gratings today. It has greater resistance to wear, abrasion, corrosion, chemicals and weathering than any other. Costs less than on-the-job painting. Write if you would like more information, or ask for a Blaw-Knox Grating salesman to show you a sample.

Free facts on grating. Write for Bulletin No. 2581. Blaw-Knox Company, Pittsburgh 38, Pennsylvania.

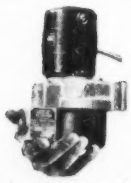
BLAW-KNOX GRATING

For more details circle NED-304 F1 on enclosed inquiry slip

A complete OIL-DYNE hydraulic unit could fit on this page — with room to spare!



If you still believe that hydraulic units must be big and bulky, you just haven't seen Oil-Dyne's miniature power package! And if you think the motor or pump must run constantly, you haven't heard that an Oil-Dyne motor and pump run ONLY while the cylinder piston is in motion. Perhaps, too, you didn't know that Oil-Dyne has eliminated all the complex external valving for directional control . . . and that when you shut off an Oil-Dyne reversible pump, the piston is automatically locked in position, and stays there indefinitely. Just to make sure you're aware of what's happened in hydraulics since Oil-Dyne pioneered miniaturization, you ought to write for our Catalog 21-E.



PIONEERING MINIATURIZED HYDRAULIC ACTUATION

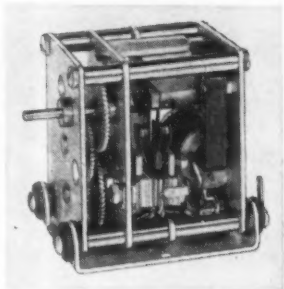
OIL-DYNE INC.

2115X West Marquette Road • Chicago 36, Ill.

PUMPS • CYLINDERS • VALVES
PRESSURE SWITCHES • ACCESSORIES

For more details circle NED-305 F1 on enclosed inquiry slip

DIRECT-CURRENT MOTOR constant speed type is improved



Accurate speed over wide voltage and load variations without governors or regulators is afforded by the improved Amglo direct-current motor. Its speed is magnetically linked to reed frequency and cannot vary. Improved design has reduced its size and weight and increased torque over 100 per cent. Output shaft speeds from 1500 rpm to 1 revolution in 24 hr or more are available. Motor is built to requirements in a wide range of operating voltages, torques, output shaft speeds, and switching arrangements. Operation may be from small batteries. • **Amglo Corp.**, 4325 N. Ravenswood Ave., Chicago 13, Ill.

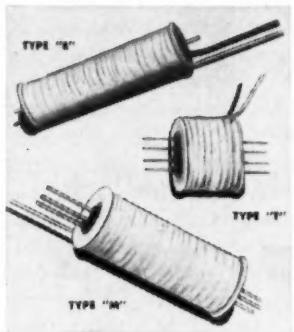
For more details circle NED-307 F1 on enclosed inquiry slip

SHIPPING CASE IMPRINTER automatic unit made in eight models

Set up and filled corrugated shipping cases are automatically printed on both sides, turned for printing on both ends, then turned again by the Kiwi automatic imprinting machine. Suited for handling cases on conveyor lines, it operates at any variable speed up to 50 cases per minute. Motor driven equipment is made in eight models for cases weighing up to 70 lb each. • **Kiwi Coders Corp.**, 4027 N. Kedzie Ave., Chicago 18, Ill.

For more details circle NED-308 F1 on enclosed inquiry slip

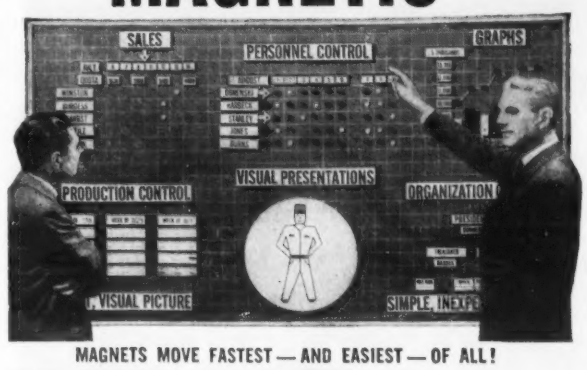
REED SWITCH COILS in 6, 12, 24, and 48-v dc ratings



Shown are three stock coils for operating magnetic reed switches in any "code group." Type S for single reed switch, wound on a round nylon bobbin, is offered in 6, 12, and 24-v dc ratings in resistance values of 100, 360, and 1400 ohms, respectively. Type M for two or three-reed switches is also wound on a nylon bobbin in 6, 12, 24 v dc and 50, 175, and 820-ohm ratings. Type T is offered in 6 to 48-v, 100 to 4600-ohm ratings and is wound on an oval bobbin. It accommodates one to four 0.125-in. diameter reeds, or combination of reeds and 1/8-in. magnet, for normally open, normally closed, or both types of operation. All coils have 6-in. color-coded leads. Other voltages are available. • **Coto-Coil Co.**, 69 Pavilion Ave., Providence, R. I.

For more details circle NED-309 F1 on enclosed inquiry slip

VISUAL MAGNETIC CONTROL



MAGNETS MOVE FASTEST — AND EASIEST — OF ALL!

SIMPLEST VISUAL SYSTEM FOR
- Production
- Personnel
- Sales
- Maintenance
- Scheduling
- Machine Loading
- Charts—Graphs
- Visual Presentations

COLORFUL MAGNETIC ELEMENTS
- show facts instantly
- organize for action
- eliminate mistakes
- get the job done

PRICED FROM $38 INCLUDING MAGNETIC ELEMENTS

PRICE LIST & BROCHURE NE6 FREE ON REQUEST

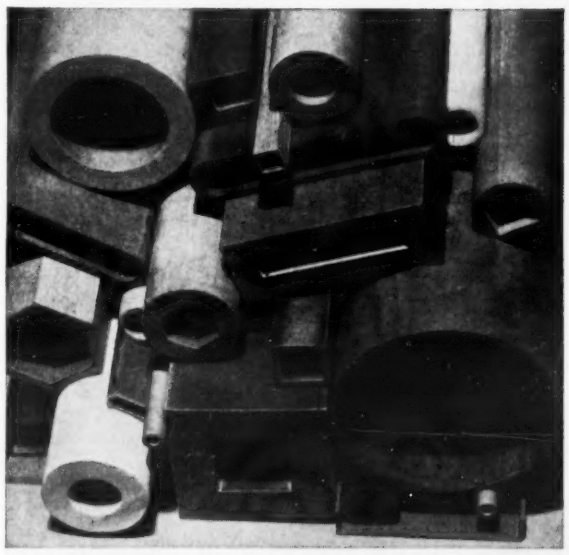
REPRESENTATION DESIRED IN SOME AREAS

Methods Research Corp.

105A Willow Ave., Staten Island 5, New York

For more details circle NED-310 F1 on enclosed inquiry slip

ALL Your Needs in Laminated Plastic Tubes



An Example of Synthane *You-shaped* Versatility

At Synthane we have the versatility to give you just about everything you want in laminated plastic tubing or parts. Over 25 standard grades including those complying with governmental specifications. Sizes 3/32" ID up to 26 1/4" OD. Lengths 18" to 96". Wide range of wall thicknesses. Selection of colors and finishes. Molded and rolled tubing. Variety of cross sections—round, oval, square, polygonal, etc. Our excellent fabrication facilities provide you with finished parts to your specifications.

You-shaped Versatility makes Synthane a Better Buy in Laminates

SYNTHANE CORPORATION OAKS, PENNA.

Synthane Corporation, N.E. River Rd., Oaks, Pa.

Gentlemen:

Please send me information about Synthane as a source for laminated plastic tubes and parts fabricated from tubes.

Name_____

Address_____

City_____ Zone____ State_____

For more details circle NED-311 F1 on enclosed inquiry slip

Cleaning motors • generators • plant equipment?

Here's what **TURCO-SOLV** *Controlled Evaporation* means to you:

EFFICIENCY • Stays wet and working just long enough to clean thoroughly in a minimum of time.

SAFETY • Drastically reduces solvent vapors in the air, minimizing toxicity and flammability.

ECONOMY • Reduces consumption of material. Eliminates "touch up." Gives you a "bigger gallon."

Write for FREE BROCHURE! Reveals flammability, toxicity, efficiency and evaporation ratings of various safety solvents available on the market today!

TURCO PRODUCTS, INC.
CHEMICAL PROCESSING COMPOUNDS
24600 South Main Street, Wilmington, Calif.
Factories: Chicago, Houston, Los Angeles, London, Rotterdam, Sydney, Mexico City, Paris, Montreal, Hamburg, Naha (Okinawa)
Manufactured in Canada by B.W. Deane & Co., Montreal
OFFICES IN ALL PRINCIPAL CITIES

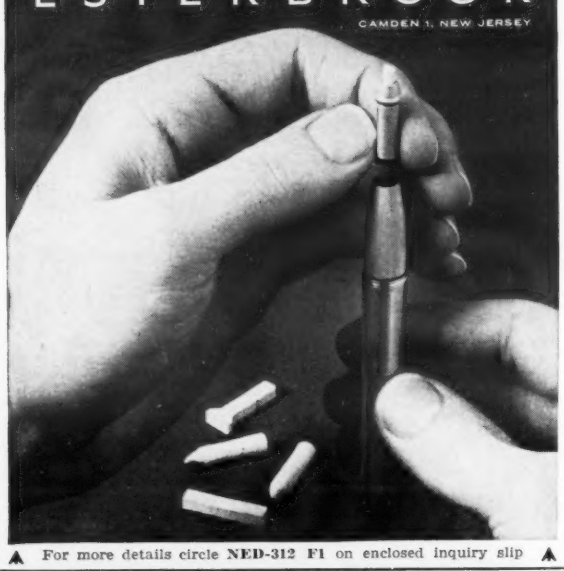
For more details circle NED-306 F1 on enclosed inquiry slip

King-Size Flo-master marks on everything

It's the world's only king-size *refillable* felt-tip marking pen. Designed especially for shipping room table and factory bench. Extra-large ink capacity. Takes replaceable felt tips up to 1" wide. Choose among 8 transparent ink colors. Try it. Only $4.00.

ESTERBROOK

CAMDEN 1, NEW JERSEY



For more details circle **NED-312 F1** on enclosed inquiry slip

They're SMALL They're SIMPLE They're GOOD LOOKING

Allen-Bradley—with its new line of motor starters—leads again!

The seven new Bulletin 709 starters. Maximum rating: 100 hp, 220 v; 200 hp, 440-550 v.

In every way, these Bulletin 709 starters are entirely new! They have a *new* compactness—yet they will provide *more millions* of trouble free operations than any starter now on the market. The *new* patented, high efficiency magnet has a short, cushioned stroke to reduce shock and wear. The *new* pressure molded coil is completely protected against mechanical damage and harmful atmospheres. *New* double break contacts of weld-resistant cadmium oxide silver seat true and firm—with *no* wear-causing sliding motion. The *new* overload relays are trip-free and tamperproof—but use the *same* Bulletin 709 heaters you have in stock. The smart, new cabinets—by Brooks Stevens—reflect the quality of this *new* A-B line. Send for full details, today.

ALLEN-BRADLEY

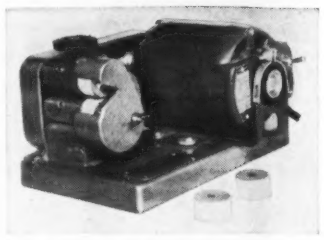
Member of NEMA

Quality Motor Control

ALLEN-BRADLEY CO., 1334 S. SECOND ST., MILWAUKEE 4, WIS.

For more details circle **NED-313 F1** on enclosed inquiry slip

WIRE STRIPPER has No. 32 to 50 AWG wire capacity



Two abrasive wheels of the WR-6 wire stripper instantly remove the wire coating with no damage to the conductor. Designed for resistance, magnet and similar work, tool has a capacity of No. 32 to 50 AWG wire and 1/4-in. diameter mandrels with a 3/4-in. face. It is driven by a 1725-rpm, 115-v motor and is equipped with cord, plug, and cord switch. • **High Speed Hammer Co.**, 313 Norton St., Rochester 21, N. Y.

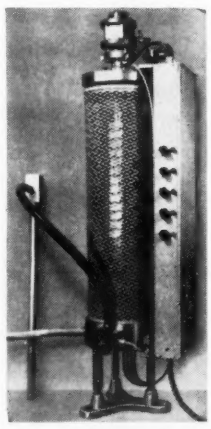
For more details circle **NED-314 F1** on enclosed inquiry slip

TENSION CONTROL WRENCH made in 3/4 and 1 1/4-in. capacities

Built-in control permits easy adjustment of this air powered tension control wrench to obtain tension from 25 to 100 per cent of the elastic limit of the bolt. Accurate tension is obtained regardless of such variables as burrs, irregular threads, rust, and scale. Wrench delivers full power forward or reverse and requires no attachments. Model 18B-7T has a rated capacity of 3/4 in., and Model 18B-9T has a 1 1/4-in. capacity. • **Gardner-Denver Co.**, 1350 Front St., Quincy, Ill.

For more details circle **NED-315 F1** on enclosed inquiry slip

LIQUID DEGASSER removes dissolved, entrapped gases

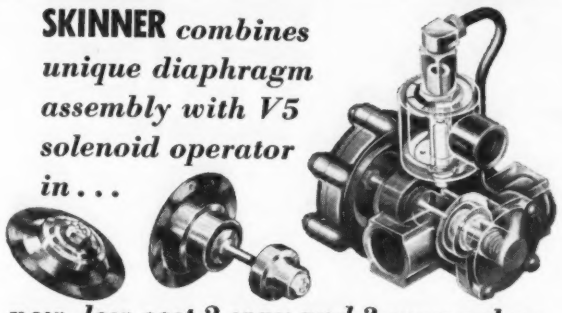


Liquids used in the production of castings are rendered free of dissolved or entrapped gases by the On-the-Fly degasser, making the castings free from voids caused by the gases. Using vacuum and heat, the unit also removes other volatile materials from either a continuous or intermittent flow of liquids. A broad range of liquid or hot melt materials such as epoxies, urethanes, polyesters, vinyl plastisols, petroleum, coal tars, and waxes used in castings, encapsulations, and coatings can be handled. Air motor driven output pump feeds the liquid as demanded or recirculates it through the system. Sealed, self-contained unit requires only 110 or 220-v, air, and vacuum supplies. • **Automatic Process Control, Inc.**, 1170 Morris Ave., Union, N. J.

For more details circle **NED-316 F1** on enclosed inquiry slip

For more details circle **NED-317 F1** on enclosed inquiry slip

SKINNER *combines unique diaphragm assembly with V5 solenoid operator in . . .*



new, low cost 2-way and 3-way valves

Skinner low cost L Series solenoid valves are for high flow, heavy-duty industrial use. Unusually long life is assured by the unique diaphragm assembly.

Types— (2-way) Normally closed, normally open
(3-way) Normally closed, normally open, directional control

Pipe Sizes NPTF— (2-way) 3/8", 1/2", 3/4", 1"
(3-way) 3/8", 1/2", 3/4"

Orifice Sizes— (2-way) 1/2", 3/4", 1"
(3-way) 3/8", 1/2", 3/4"

Minimum Operating Pressure Differential—5 PSI;
Maximum Operating Pressure Differential—150 PSI

Leakage—Bubbletight

Temperature Range—Minus 40°F to plus 180°F

Stainless steel and brass internal parts—forged naval brass bodies

For new catalogs and complete information, contact a Skinner Representative listed in the Yellow Pages or write us at Dept. 436.

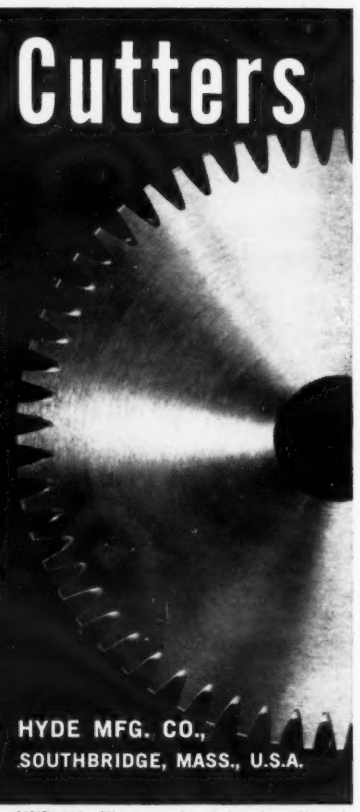
SKINNER ELECTRIC VALVES

THE CREST OF QUALITY

SKINNER ELECTRIC VALVE DIVISION
SKINNER PRECISION INDUSTRIES, INC. • NEW BRITAIN, CONNECTICUT, U.S.A.

For more details circle **NED-318 F1** on enclosed inquiry slip

Bias Cutters

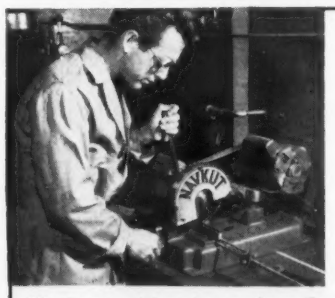


Tire industry bias fabric cutter — high carbon, high chrome steel, individually ground and honed. This is just one of the thousands of knives produced at Hyde for dozens of different industries. Send your cutting requirements or problems to Hyde for the best in Industrial Knives for long service at fair prices.

HYDE

HYDE MFG. CO., SOUTHBRIDGE, MASS., U.S.A.

For more details circle **NED-319 F1** on enclosed inquiry slip



New $300 precision cut-off saw paid for itself in 15 minutes

Navkut*, the new precision cut-off saw, cut production costs of "spacers" substantially at Unicorn Engineering Inc. (now owned by Computer Measurements Co., Sylmar, Calif.). The cost of spacers was reduced from $8 to 80c each by Navkut's simple cut-off operation. During every 15-minute production run, the Navkut saw paid for itself. Such results aren't unusual with Navkut, the saw that can cut parallel tolerances to within .002" in ferrous, non-ferrous, wood, and plastic materials with only two types of blades. Usually the cut finish and accuracy will be so precise there is no need for milling or grinding. All this, yet the Navkut saw costs only $300. See for yourself how it can save you money. Write today for a free 15-minute demonstration in your shop.

*TRADEMARK

Navkut saw is another product marketed by:

NAVAN — INVENTION MARKETING NATIONAL SALES

NAVAN PRODUCTS INC.
Subsidiary of
North American Aviation, Inc.
900/J North Sepulveda
El Segundo, California

For more details circle **NED-320 F1** on enclosed inquiry slip

PAINT STRIPPING CLINIC!

Send Us Your Tough Stripping Problems for Fast Action!

14th YEAR OF **BECK** PAINT STRIPPING CLINICAL SERVICE Saves Thousands of $$$ for Customers—Who Now Use World-Famous...

EPOXYSTRIP FASTEST WORKING LONGEST LASTING

Better find out for yourself . . . about Epoxystrip, Econostrip and other Beck Paint Remover lines and formulations. Use the BECK CLINIC SERVICE — send us several parts, sections, or test panels (properly tagged) of the work to be stripped.

Write or 'phone giving us essential information—your problem details, requirements, tanks available, hot or cold, etc. This service, and our prompt report, are free, with no obligation.

JOBBERS: Beck EPOXYSTRIP sells on demonstration. Try it and see for yourself.

Beck Strippers outstrip all others — removing organic finishes, epoxies, etc., as easily as baked enamels, lacquers, etc. No stripping scum — clean rinsing!

WRITE FOR FREE FOLDER

BECK EQUIPMENT & CHEMICAL CO.
3350 WEST 137th STREET — CLEVELAND 11, OHIO

For more details circle NED-321 F1 on enclosed inquiry slip

SAVE SPACE AND REDUCE COSTS WITH AURORA® VERTICAL END-SUCTION PUMPS

Capacities to 1800 GPM
Heads to 320 Feet

Close-coupled, vertical mounting design provides the extreme compactness that is so important where space is critical. Flanged suction mounting cuts piping costs and eliminates separate foundation arrangement. Optional discharge arrangement permits the most simplified installation. Also available in horizontal close coupled or flexible coupled models. Write for Bulletin.

AURORA Always PUMPS

AURORA PUMP DIVISION
THE NEW YORK AIR BRAKE COMPANY
1180 LOUCKS ST. • AURORA, ILLINOIS
LOCAL DISTRIBUTOR IS LISTED IN THE YELLOW PAGES OF YOUR PHONE BOOK

For more details circle NED-322 F1 on enclosed inquiry slip

ENGINEERED RUBBER PARTS

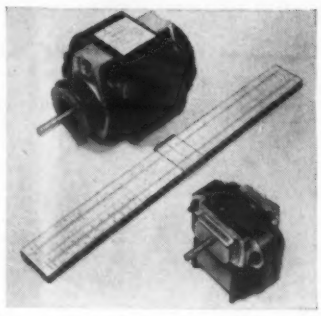
Garlock offers dozens of different types of rubber, each carefully chosen and processed to meet your exacting needs . . . natural rubber with high tensile strength . . . styrene butadiene where a rugged, general purpose compound is required . . . neoprene rubber where good oil and abrasion resistance is important. Garlock offers a wide range of nitrile and butyl compounds where their special properties are required. For more difficult applications, Garlock offers silicone rubber for high and low temperature service, and Viton* rubber for extreme temperature and solvent resistance. Garlock will mold, extrude, and die cut rubber parts to the shape you require. For more data, call our nearest sales office. Or, write for AD-167, Garlock Inc., Palmyra, N.Y.

GARLOCK

Canadian Div.: Garlock of Canada Ltd.
Plastics Div.: United States Gasket Company
Order from the Garlock 2,000 . . . two thousand different styles of Packings, Gaskets, Seals, Molded and Extruded Rubber, Plastic Products.
*Du Pont Trademark

For more details circle NED-323 F1 on enclosed inquiry slip

SUBFRACTIONAL-HP MOTORS in 6.5 and 1.0 oz-in. torques

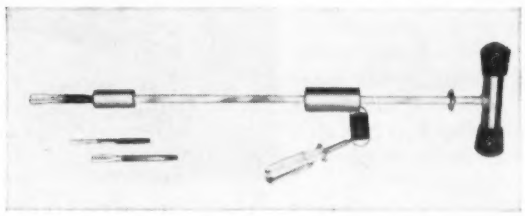


Weighing 4 lb, Model L 117-v, shaded-pole induction motor (upper left) is rated 0.025 hp at 3250 rpm and delivers starting torque of 6.5 oz-in. The 1.2-amp unit is designed for typewriters, business machines, and similar equipment, and is available with or without clutch. Model L, rated 0.003 hp at 2500 rpm, delivers 1.0 oz-in. starting torque. Shown at lower right, this 0.31-amp unit weighs 1 lb 6 oz and is suited to gear trains, air circulation, remote controls, and other applications. • **Alliance Mfg. Co.**, Dept. MJ, Lake Park Boulevard, Alliance, Ohio.

For more details circle NED-324 F1 on enclosed inquiry slip

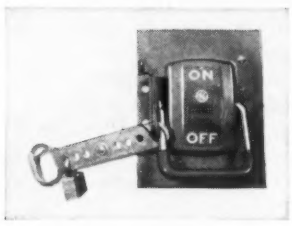
STAR DRILL HAMMER whip type speeds masonry drilling

Making use of the tensile rebound principle to gain its power, the Whip Hammer can drive a star drill through masonry five times faster than hand hammering. Tool minimizes possibility of hand injury, and workman never misses making contact with the star drill. A strong spring grip gives snap and working ease to the tool. Three commonly used sizes of star drills are provided in the handle, with other sizes available. Plated finish resists corrosion. • **Cuyahoga Stamping Co.**, 10201 Harvard Ave., Cleveland 5, Ohio.



For more details circle NED-325 F1 on enclosed inquiry slip

MULTIPLE LOCKOUT for switch and fuse boxes



Slots are provided for six padlocks on this safety lockout for electric switch and fuse boxes. Box cannot be reactivated until all workmen on the line have completed their work. Each has his own padlock and key. The ends of the lockout provide for virtually any type of electrical equipment, even the latest large-handled front switching unit shown. • **Industrial Products Co.**, 2807 N. Fourth St., Philadelphia 33, Pa.

For more details circle NED-326 F1 on enclosed inquiry slip

ENGINEERED PACKINGS

Garlock LATTICE-BRAID* Packings are engineered for longer packing life. They employ a through-and-through braiding construction. Each strand passes diagonally through the packing at a 45° angle. This unique construction makes a completely unified structure, resulting in greater strength. Since there is no single outer braid to wear through, Garlock LATTICE-BRAID will wear far beyond the limits of ordinary packings. Applicable against water, steam, oil, gases and chemicals to 700°F. Available in asbestos, flax, cotton and Teflon†. Only Garlock can give you LATTICE-BRAID.

Call the nearest of our 26 sales offices throughout the U.S. and Canada. Or, write for Catalog AD-131, Garlock Inc., Palmyra, New York.

GARLOCK

Canadian Div.: Garlock of Canada Ltd.
Plastics Div.: United States Gasket Company.
Order from the Garlock 2,000 . . . two thousand different styles of Packings, Gaskets, Seals, Molded and Extruded Rubber, Plastic Products.
*Registered Trademark
†Du Pont Trademark for TFE Fluorocarbon Resin

For more details circle NED-327 F1 on enclosed inquiry slip

LepeL

High Frequency Induction

HEATING EQUIPMENT

For Hardening • Annealing • Soldering
Brazing • Zone Refining • Crystal Growing

ELECTRONIC TUBE GENERATORS:
1 kw; 2½ kw; 5 kw; 10 kw; 20 kw; 30 kw; 50 kw; 75 kw; 100 kw.

SPARK GAP CONVERTERS:
2 kw; 4 kw; 7½ kw; 15 kw; 30 kw.

WRITE FOR THE NEW LEPEL CATALOG 36 illustrated pages of valuable information.

LepeL HIGH FREQUENCY LABORATORIES, INC.
55th ST. & 37th AVE., WOODSIDE 77, N. Y.
CHICAGO OFFICE: 6246 WEST NORTH AVE.

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You'll be amazed at NoDrip Plastic Coating savings

Instead of using expensive absorbent insulation or multiple coats of paint on cold pipes, tanks and air ducts, switch to NODRIP PLASTIC COATING to *permanently* stop condensation drip and corrosion! Cost is far less, application fast and simple. Applies like plaster with trowel or brush.

Non-toxic, odorless, non-flammable. Resists acids, alkalis, brine solutions or vapor. Use on metal, concrete, brick, plaster, tile. Stops condensation drip, rust and corrosion. 1 and 5 gal. cans or 55 gal. drums.

for smaller pipes use **NoDrip TAPE**

Pliable, cork-filled, self-adhering tape. No tools or fasteners.

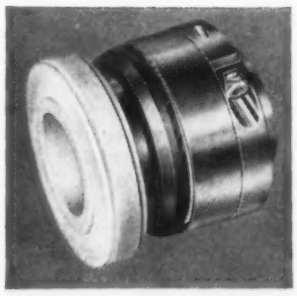
Forms 100% vapor- and moisture-proof jacket, even around unions, tees, angles, valves.

At all leading hardware, mill supply and plumbing jobbers. For full information and technical handbook write

Mortell COMPANY
526 Burch Street, Kankakee, Ill.

For more details circle NED-329 F1 on enclosed inquiry slip

TEFLON MECHANICAL SEALS



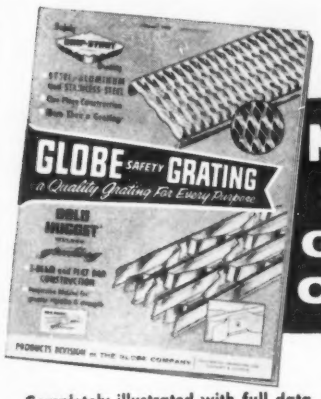
Where others fail, Garlock CHEMISEAL† Mechanical Seals with Teflon* bellows provide trouble-free service against the most reactive chemicals. They possess immunity to corrosion and contamination, offer long, useful life, and are more economical than many designs. Good for all mediums including fluids with suspended solids, the seals are pressure balanced for service up to 100 p.s.i. at 167°F or 75 p.s.i. at 212°F. Available for pump shafts from ⅞" to 2⅛"—special sizes also available. Call the nearest of our sales offices for more data. Or, write for Catalog AD-164, Garlock Inc., Palmyra, New York.

Canadian Div.: Garlock of Canada Ltd.
Plastics Div.: United States Gasket Company

GARLOCK

Order from the Garlock 2,000 . . . two thousand different styles of Packings, Gaskets, Seals, Molded and Extruded Rubber, Plastic Products.
†Registered Trademark
*DuPont Trademark

For more details circle NED-330 F1 on enclosed inquiry slip



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New Globe SAFETY GRATING CATALOG

Completely illustrated with full data, load charts and specifications on these two superior open steel floor gratings:

★ **SAFETY GRIP-STRUT GRATING**
Of one piece construction in Steel, Aluminum and Stainless Steel.

★ **GOLD NUGGET WELDED GRATING**
I-Beam and Flat Bar construction—projection welded for greater rigidity and strength.

For architects, consulting engineers, plant superintendents, maintenance engineers, safety engineers, contractors, builders—for every safety purpose . . . fire proof, slip proof, maximum strength with minimum weight—cool in summer, warm in winter, self cleaning. A grating for any purpose, any load, any budget.

Write for your free copy TODAY. 112

PRODUCTS DIVISION THE GLOBE COMPANY
4002 S. Princeton Ave., Chicago 9, Illinois

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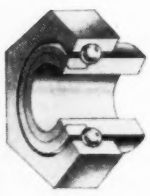
KILIAN

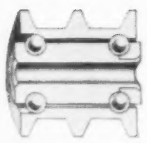
UNGROUND BALL BEARINGS *offer you—*



QUALITY—For more than 40 years Kilian Unground Ball Bearings have been the highest quality and the most accurate unground ball bearings obtainable.

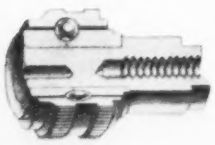
ECONOMY—Inexpensive Kilian Unground Ball Bearings are the perfect answer where precision is not required, where loads are light and speeds are under 2500 r.p.m.

SUPERIOR CONSTRUCTION—All component parts are machined from steel bars and are properly heat treated thus assuring greatest accuracy and an absolutely true running concentric bearing.



CUSTOM DESIGN—Shown here are just a few of the thousands of different bearings that have been designed and produced for America's leading industries. Because of our method of manufacture, we can offer you special bearings in quantities of 2500 or more.

CHOICE OF MATERIALS—In addition to carbon steel, we can furnish bearings made of bronze and stainless steel. NEOPRENE and NYLON tired outer races are available where quiet operation is desired.



CHOICE OF FINISH—For corrosion resistance as well as appearance, various types of finishes are available such as zinc, cadmium, dulite, nickel and chrome.

KILIAN
MANUFACTURING CORP.
SYRACUSE, N. Y., U.S.A.
CATALOG ON REQUEST
Distributed throughout United States and foreign countries.

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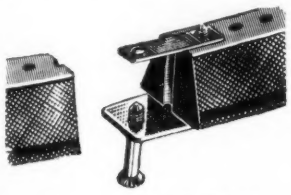
PART-HOLDING FIXTURE
centers castings for machining

This double-wedge fixture centers and clamps small ferrous castings for drilling, threading, tapping, and hollow milling operations on a Bodine dial type machine. Three different valve bodies are machined with the same tooling by merely changing the serrated clamping jaws. The entire operation is automatic except for manual feeding of parts. • **Bodine Corp.**, 317 Mt. Grove St., Bridgeport, Conn.

▲ For more details circle NED-333 F1 on enclosed inquiry slip ▲

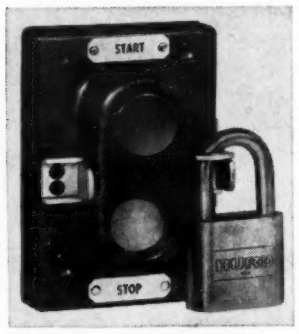
PERFORATED V-BELTING
made into belts with screwdriver

Both plates used in making V-belts from open-end perforated V-belting are prebent to obviate injurious bending stress at extreme curvature. This design allows the fastener to follow the angle, even over pulleys of small diameters. V-belts are made using a screwdriver and screws of a strong alloy steel instead of the original brass. • **Rockwood Pulley Mfg. Co.**, 20 Crosby St., New York 13, N. Y.



▲ For more details circle NED-334 F1 on enclosed inquiry slip ▲

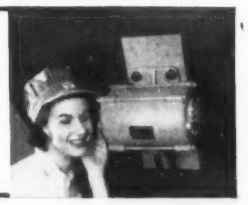
PUSHBUTTON SWITCHES
for conveyor, machine, motor use



Any one motor of a complex system can be stopped by either of two pushbutton switches, then, by padlocking its sliding latch, the equipment can be safely repaired. Switches provide low cost stop lockout protection on conveyor systems, automation lines, complex machine tools, and other processes where multiple motor drives are used or where motor controls are remotely located from the electric drives. Style 3829 has a single plunger and is normally furnished with one set of momentary transfer contacts. Other contact arrangements are available. Style 3827 has start and stop buttons in a single unit. Both feature the sliding lockout latch and can be mounted in oil-tight cast enclosures or grouped in standard sheet metal enclosures. • **Mackworth G. Rees, Inc.**, 1573 E. Forest Ave., Detroit 7, Mich.

▲ For more details circle NED-335 F1 on enclosed inquiry slip ▲

CLEVELAND SILENT VIBRATOR REDESIGNED



Cleveland Vibrator's RC-50 Quiet Electric Bin Vibrator has been redesigned, making it more compact and more powerful.

The new RC-50 develops an impact force of 2250 pounds and weighs only 84 pounds. It is used to vibrate bins, expediting the flow and handling of bulk materials such as sand, flour and concrete.

The RC-50 operates on the rotating eccentric weight principal and is very quiet. Two cam like weights are rotated at 3600 rpm. to develop the vibrational force. Adjustable weights permit varying the vibration impact between 750 and 2250 pounds.

Cleveland's new RC-50 is available for operation on 110, 220, 440 or 550 volts. Rotary electric vibrators require much less maintenance than electric reciprocating vibrators. In fact, the RC-50 requires no more maintenance than a standard a-c. motor.

For complete details, write

THE CLEVELAND VIBRATOR COMPANY
2744-6 Clinton Avenue • Cleveland 13, Ohio

▲ For more details circle NED-336 F1 on enclosed inquiry slip ▲

HOMOFLEX AIR HOSE

"FLEXIBLE AS A ROPE"

- STRONG
- LIGHT
- KINKLESS

More flexible and lighter than any other hose for equal pressure. Lasts longer, precision built, uniform diameter, lower end cost. Made also in extra-heavy type for mining.

Write for Catalog M610.

RM 1014

Engineered Rubber Products . . More Use Per Dollar
RAYBESTOS-MANHATTAN, INC.
MANHATTAN RUBBER DIVISION, PASSAIC, NEW JERSEY

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181 Snap-on WRENCHES

...for all kinds of nut-turning jobs

5181-GS-B Nut-Turning Set

• Includes 1/4, 3/8, 1/2 and 3/4-in. square drive socket sets; combinations; hex heads; Flex-heads; open-ends; BOXOCKETS® and ratcheting BOXOCKETS; even ignition wrenches • A size and style for almost every job • Sizes from 3/16 to 1-7/8 in. • Convenient, portable — goes anywhere.

The new SNAP-ON industrial tool catalog is available on request. Contact your nearest branch . . . or write direct.

FOR ALL INDUSTRY
SNAP-ON TOOLS
8110-F 28th AVENUE • KENOSHA, WISCONSIN

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Speeds Vacuum Handling

Newest of Whiting Pressuregrip vacuum lifters, UNI-GRIP offers an economical way to cut machine feeding costs. Under one-man control, it lifts, spots, feeds objects as heavy as 2,000 lbs. . . . smooth surfaces or rough. Powerful single gripper is quickly changed to new size, or to multiple gripper bar. Reserve vacuum tank assures safety. Save manhours . . . cut handling costs! Write today for facts! *Whiting Corporation, 15660 Lathrop Avenue, Harvey, Illinois.*

WHITING

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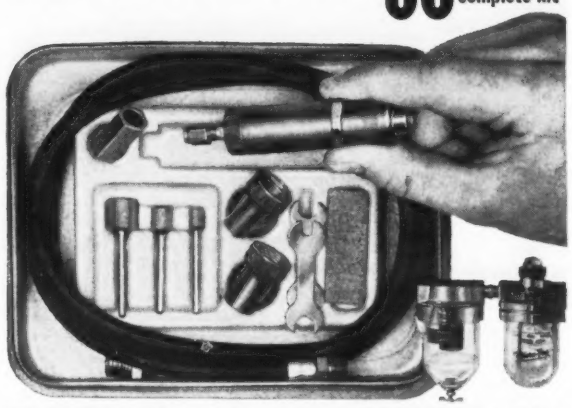
New Buckeye Air Grinder for Precise Grinding...NOW ONLY $88.50 complete kit



KIT INCLUDES: 1—14G air grinder, 3—nose pieces, 3—grinding points, 1—5' hose and couplings, 1—dressing stone, 3—Wrenches, 1—Vitalizer (air filter and lubricator), 1—plastic case.

COMPARE THESE FEATURES WITH ANY GRINDER IN ITS CLASS.

• LIGHTWEIGHT, only 5 oz. • COMPACT, WELL BALANCED, only 3¾" long. • INFINITE SPEED CONTROL, RING THROTTLE, 0 to 50,000 RPM. • CAPACITY, ½" mounted points. • RUGGED CONSTRUCTION, one-piece all steel motor housing, large precision ball bearings supporting one-piece spindle. • STURDY VANE-TYPE AIR MOTOR. • QUIET OPERATION. • 1/8" or 3/32" collets.

Order Direct from Factory or Contact Your Local Buckeye Representative Today!

Buckeye Tools CORPORATION
P. O. BOX 966 DAYTON 1, OHIO

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Drill Hardened Steels without Annealing—

With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

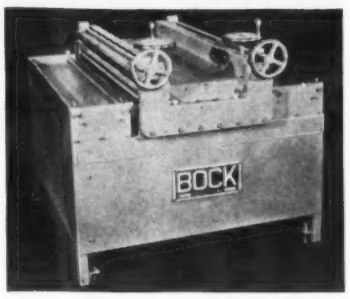
You Harden It—We'll Drill It—With "HARDSTEEL"

BLACK DRILL COMPANY, INC.
1380 East 222nd St. • Cleveland 17, Ohio

"HARDSTEEL"

▲ For more details circle **NED-341 F1** on enclosed inquiry slip ▲

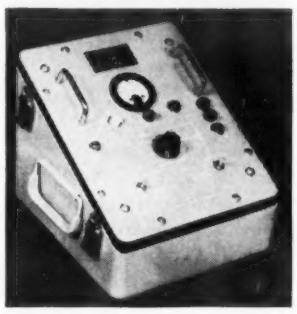
ROLLER-LEVELER handles 48-in. wide uncoiled steel



Uncoiled steel in widths from 36 to 48 in. and thicknesses to 16-gage are handled by this roller-leveler. Driven by a 1-hp, 110-120-v gear-head motor, unit has maximum speed of 60 fpm. It has four pinch rolls and seven straightening rolls. All moving parts are guard-covered. Needle bearings are used throughout the unit, available with an optional electric magnetic clutch. • **Elkhart Welding & Boiler Works, Inc.**, 2132 S. Main St., Elkhart, Ind.

▲ For more details circle **NED-343 F1** on enclosed inquiry slip ▲

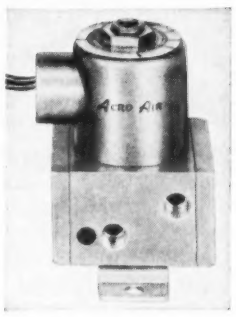
AUTOMATIC CABLE TESTER handles 50 or more conductors



Model 50 transistorized cable tester quickly, accurately, and automatically checks each wire in a cable for faults, detecting deviations or resistance to 0.1 ohm for continuity and leakage up to 100 megohms. Leakage and short circuits between conductors resulting from defective insulators, improperly connected wires, cold solder joints, and damaged wires are located. The accepted or rejected wire is identified through a digital readout. Manual or automatic sequencing is adjustable to a maximum of one circuit per second. Instrument handles 50 or more conductors and has provision for unlimited combinations of wiring, cable connectors, or terminal plugs. • **Automation Dynamics Corp.**, 255 County Rd., Tenafly, N. J.

▲ For more details circle **NED-344 F1** on enclosed inquiry slip ▲

SOLENOID AIR VALVE is fast-acting, four-way type



Operating at pressures as low as 10 psi or less on the line, Model I-J-4 fast-acting 1/8-in. pneumatic valve is solenoid operated. It has an aluminum body and poppet type piston made of Buna-N rubber bonded to stainless steel so that it is suited for handling corrosives. The easily serviced control will handle pressures to 150 psi. • **Acro Air Associates**, 16736 Foothill Blvd., San Leandro, Calif.

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Now—a Honeywell indicating temperature controller at this low price!

T654A
$84.00

Honeywell T654A indicates and controls temperatures on an evenly graduated scale accurate within 1% of scale range. A liquid-filled thermal system with an armored tube actuates a MICRO SWITCH* snap switch. This switch can control an *Actionator**, motor, relay, contactor or other device. Complete ambient temperature compensation for case and tubing. Unit can be surface or flush-mounted. Wells are available for applications requiring bulb protection. Ranges to 1200° F. **Trademark*

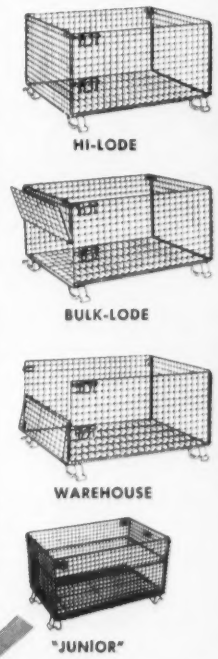
Honeywell
First in Control
SINCE 1885

▲ For more details circle **NED-346 F1** on enclosed inquiry slip ▲

the DIFFERENCE between PROFIT and LOSS....

. . . is determined by your efficiency in handling part and products between successive production stages—shipment and delivery.

And... if you're interested in reducing high handling costs in your plant, send for Union Steel Products Company's big new Palletainer catalog. It quickly and concisely shows many different Palletainer applications which represent the latest methods of handling, storing and warehousing. Construction features and complete specifications on the broad range of models available are also fully covered.



SPECIAL OFFER

See for yourself... actually try Palletainers in your plant on a 60-day memo billing basis. Your obligation is freight—only! Phone today.

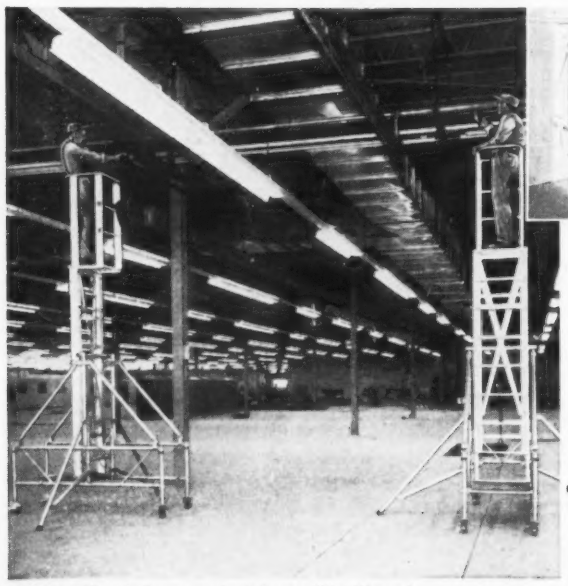
UNION STEEL PRODUCTS CO.
ALBION, MICHIGAN

Gentlemen: Please send my copy of the new Palletainer booklet at once. ☐

Name _____
Title _____
Company _____
Address _____
City _____ Zone _____ State _____
Please have your representative contact me at once..... ☐

▲ For more details circle **NED-347 F1** on enclosed inquiry slip ▲

20% labor savings on overhead installations with TALLESCOPE... telescoping aluminum scaffold



Western Electric Company plant, Kansas City, Missouri.

In overhead work on heating and ventilating systems, six Tallescope aluminum scaffolds saved 20% on total installation time. Units fold down to pass through doorways and under low ceilings, saving repeated assembly and disassembly of conventional scaffolds. Western Electric Company plant, Kansas City, Missouri. On all overhead maintenance, Tallescope gets men up in the air fast; lets them finish the job fast! Extends instantly for reaching heights up to 31 feet. Lightweight and quickly assembled without tools or loose parts.

Write for TALLESCOPE *circular*

UP-RIGHT SCAFFOLDS
DEPT. 145, 1013 PARDEE, BERKELEY, CALIFORNIA
In Canada: Up-Right Scaffolds, Ltd., 120 Russett St., Oshawa, Ontario

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HIGH PRECISION AT LOW COST with Cleveland

INDI-AC, Jr.

TRANSISTORIZED INDICATOR

OPERATES ANYWHERE
Portable — 4½ lbs. — 6" x 7" x 3½"
AC and permanent, chargeable, battery operated.
Unaffected by shop conditions.

NO MAINTENANCE PROBLEMS
Exclusive PROTECTOR TIP*
No battery replacement
Long life transistors
No mechanical parts to wear

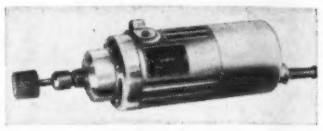
USE FOR ANY GAGING PURPOSE
3 scales—thousandths-tenths-millionths. Zeros and readings coincide on all scales. Reversible action gage head—Light Tip Pressure.

DIMENSIONAL-SURFACE FINISH ROUNDNESS GAGES
*Patented Applied For.

Ask for a demonstration and see why CLEVELAND Gages give you more.
Cleveland INSTRUMENT CO.
A SUBSIDIARY OF THE BENDIX CORPORATION
6220 E. Schaaf Rd. • Cleveland 31, Ohio
ELECTRONIC Gaging Equipment • Control Systems • Contract Services

For more details circle NED-348 F1 on enclosed inquiry slip

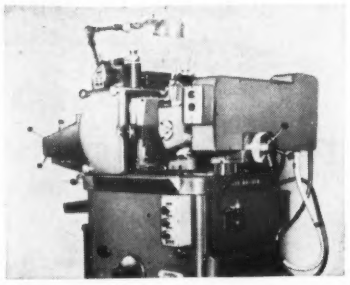
ELECTRIC HAND GRINDER
no-load spindle speed is 25,000 rpm



Grinding wheels with diameters up to 1 in. may be used in the Lesto GE/USL 33/1 electric hand grinder. It has a continuous power input of 250 w. The Swiss-made tool has a no-load spindle speed of 25,000 rpm and a speed of 15,000 rpm under load. • **Victor J. Krieg, Inc.**, Box 7, Mamaroneck, N. Y.

For more details circle NED-350 F1 on enclosed inquiry slip

CENTERLESS GRINDER
handles multidiameter parts, balls

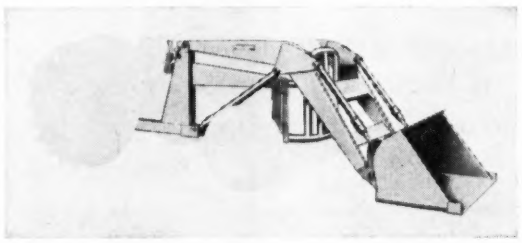


Added to line of precision centerless grinders is this Model CG-12-A which can grind multidiameter parts and balls out of stainless or carbon steel, glass, and plastic. It also grinds wood, nonferrous metals, fiber, hard rubber, ceramics, and cork. Machine will function at a high-speed automatic cycle, or can be operated manually. It can be returned to "open" position at any stage of the grinding operation by pressing a button. Unit has a caster-mounted coolant tank, wheel dressers that can be manually or hydraulically operated, a mounted wheel that is easily lifted by one man, a regulating wheel spindle, and a permanently mounted crush dressing unit. • **Royal Master Grinders, Inc.**, 272 Highway 23, Riverside, N. J.

For more details circle NED-351 F1 on enclosed inquiry slip

INDUSTRIAL LOADERS
tractor unit lifts up to 3000 lb

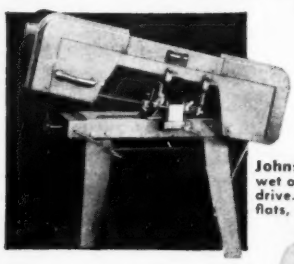
Series 800 industrial loaders for Ford, Oliver, Allis-Chalmers, Ford Ferguson, and Massey-Ferguson tractors will lift 2000-lb loads to 12-ft 4-in. height, or



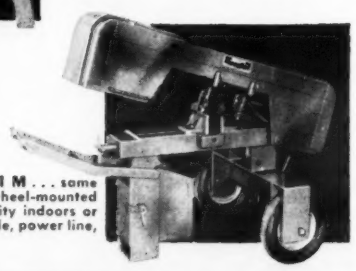
3000 lb to half that height. Unit has break-away capacity of 3250 lb, clearance of 9 ft 10 in., and dump height at 8 ft 5 in. Available 48, 60, and 72-in. material buckets have 12, 15, and 18-cu ft capacities, respectively. A 45-in. fork and gravel plate is also offered. List price less bucket is $550. • **Freeman Industries, Inc.**, Blair Pike Road, Peru, Ind.

For more details circle NED-352 F1 on enclosed inquiry slip

Johnson Model J... A big, rugged saw that cuts anything—anywhere! 10" rounds, 18" flats, heavy structurals and odd shapes. Available in wet or dry cutting models, variable speed drive and optional equipment.



Johnson Model B... Also available in wet or dry cutting models, variable speed drive. Will easily handle 5" rounds, 10" flats, odd and irregular shapes.



Johnson "Mobile" Model M... same capacity as Model B, but wheel-mounted for fast, easy maneuverability indoors or out. Has self contained handle, power line, tool box for accessories.

MORE SAW for LESS MONEY

Only Johnson offers so much saw for so little money. Whether your requirements call for the tremendous performance of the big Model J, the amazing Model B, or the versatile "Mobile" Model M, there's a Johnson saw model, wet or dry, to match your metal cutting needs.

Remember...Johnson offers three husky, handsome models that'll do the job faster, better. They're beautifully engineered, semi-automatic, have centralized controls—plus many exclusive features that pay production dividends to *you!*

Priced right? Certainly! Compare them all before you buy and you'll agree, Johnson offers more saw for less money.

Write today... Ask for illustrated literature, specifications and prices on the full line of Johnson saws. Ask the man who has one... You'll be glad you did!

JOHNSON MANUFACTURING CORPORATION
Barnes & Taylor Sts., Albion, Michigan

Eastern Distributor
R. J. R. KELLY CO.
Hale Bldg., 51 Main St.
East Orange, N. J.

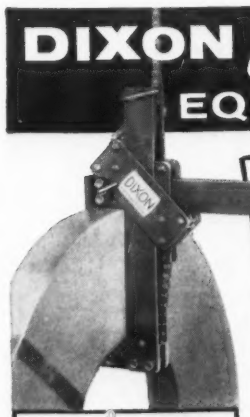
Midwestern Distributor
W. Q. LUNDMARK
75 N. Broadway
Des Plaines, Ill.

Western Distributor
HASTINGS DISTRIBUTORS
1605 Solano Avenue
Berkeley, Calif.

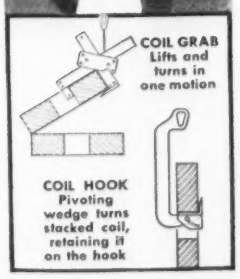
Johnson METAL CUTTING BAND SAWS

For more details circle NED-349 F1 on enclosed inquiry slip

DIXON Coil-Handling EQUIPMENT



LIFT, TURN AND LOAD COILS IN ONE EASY MOTION



DIXON GRABS have become the standard because of their secure grip and positive pickup features. All models available from stock. Capacity up to 2000 lbs. Here are a few of the important features:

1. One-man operation, pallet to stock reel.
2. Positive grip without damage to coils.
3. Clamp on all four sides of the coil.
4. Provide for rapid handling with safety.

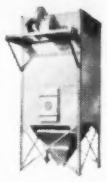
DIXON HOOKS are especially popular for use where coils are stacked with separating spacers or where the overhead clearance is limited.

Write for our NEW 4-page Coil-Handling Bulletin, CH-B1.

DIXON AUTOMATIC TOOL, Inc.
2302-23rd AVENUE — ROCKFORD, ILLINOIS

ASSEMBLY EQUIPMENT • COIL GRABS AND HOOKS

For more details circle NED-353 F1 on enclosed inquiry slip



What should a filter filter?

The true test of a dust filter's efficiency is measured by the size of the particles it collects. Koppers new MODEL K AEROTURN *reverse-air jet* dust filter is virtually 100% efficient on sub-micron particles as small as 0.40μ. The dust filter that can cope with sub-micron particles does a better job for you in these areas:

• *Good Community Relations*—MODEL K AEROTURN meets strictest community codes . . . provides maximum employee protection.

• *Maximum Product Recovery*—*Extra* product recovery for extra savings, added profits.

• *Important Maintenance Savings*—Less labor, less housekeeping with MODEL K on the job. Also, lower dust content in plant air means longer life for machinery.

• *Lower Air Filter Operating Costs*—New self-adjusting blow rings, proven pressure controlled filter cleaning reduce wear . . . increase filter tube life . . . cut operating costs. Rugged, simplified construction virtually eliminates maintenance, down time.

Write for brochure to KOPPERS COMPANY, INC., Dust Filter Dept., 4306 Scott St., Baltimore 3, Md.

KOPPERS AEROTURN® DUST FILTERS
Engineered Products Sold with Service

For more details circle NED-354 F1 on enclosed inquiry slip

Now! MARK NAME PLATES 5 TIMES FASTER ...and SAVE...SAVE...SAVE!

WITH Automark® ELECTRIC TAG MARKING TYPEWRITER

MODEL EMT-2

A NEW ERA IN NAME PLATE MARKING

Just a touch of the finger delivers up to 2 TONS pressure for deep, legible impressions on metal or plastic tags. Standard electric typewriter keyboard—over 100 characters a minute. A modern marvel!

SEND NOW FOR BULLETIN

DEFIANCE MACHINE & TOOL COMPANY
1920 S. VANDEVENTER Dept. QD ST. LOUIS 10, MO.

For more details circle NED-355 F1 on enclosed inquiry slip

THREADS 1 TO 4-INCH PIPE WITH NO DIE CHANGE!

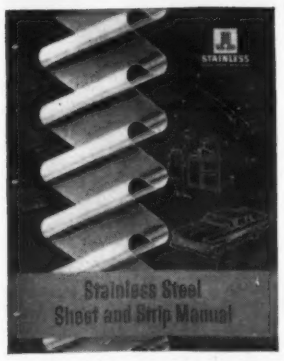
Only BEAVER HAS IT! Only 980 lbs.!

BEAVER PIPE TOOLS, INC.
DANA AVE. WARREN, OHIO

Send for complete catalog and name of nearest distributor.

For more details circle NED-356 F1 on enclosed inquiry slip

New Design Manual



Stainless Steel Sheet and Strip

Here's a brand new, 34 page manual giving design data on J&L Stainless Steel sheet and strip. Written to help the design engineer to select the best stainless for the requirements of his specific applications, it presents properties and performance data in easy-to-use form.

Here are just a few of the subjects covered:

- MECHANICAL PROPERTIES
- CORROSION DATA
- FABRICATION INFORMATION
- CONVERSION TABLES

Plus a useful Stainless Steel Selector chart . . . and much more

Send Today for your Free Copy

WRITE TO DEPT. 173D-16

Jones & Laughlin Steel Corporation
STAINLESS AND STRIP DIVISION
Box 4606, Detroit 34, Michigan

STAINLESS
SHEET • STRIP • BAR • WIRE

For more details circle NED-357 F1 on enclosed inquiry slip

---

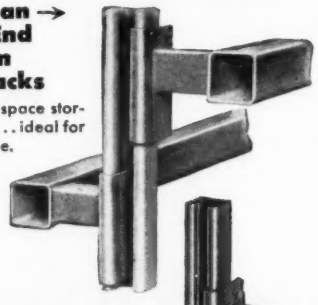
put your storage-rack dollars where they count most!

CONCENTRATE on *American* adjustable STORAGE RACKS

the engineered racks that fill the bill most efficiently!

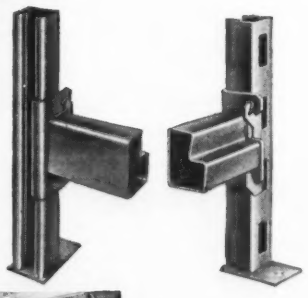
YOU can always count on American Adjustable Storage Racks for QUICK ASSEMBLY—SOLID CONSTRUCTION—EASY ADJUSTABILITY—TOP EFFICIENCY. These features save you time, labor, storage space and money, and provide industry's highest safety factor. American Posts are specially roll-formed of heavy gage steel . . . Stringers are one-piece continuous welded steel tubing—they work independently of any other part, and raise and lower like a window on 4" centers . . . Upright Frames are cross-braced against sway—turnbuckles "level out" uneven floors. In American Racks there is no costly bolting.

American → Open-End drive-in type racks
make aisle space storage space . . . ideal for bulk storage.



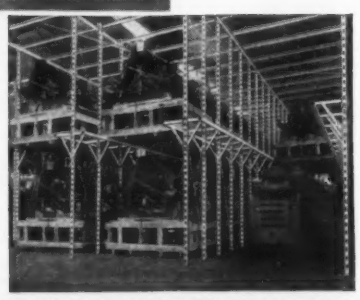
Sturdy, load-carrying stringers are made of rugged square tubing from one end of a row to the other.

American → Slide-n-Lock selective type racks
for all types of merchandise, from light packages to heavy metal products.



Smooth line construction of aisle side of post and stringer eliminates hazardous protrusions. Note rigid connection when stringer is "locked" to post.

Send for catalog

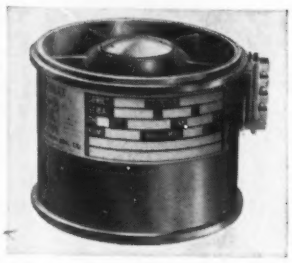


AMERICAN METAL PRODUCTS CO.
STORAGE RACK DEPARTMENT
5977 Linsdale Ave. amp Detroit 4, Michigan

Manufactured in Canada by Sunshine-Waterloo Co., Ltd., Waterloo, Ontario

For more details circle NED-358 F1 on enclosed inquiry slip

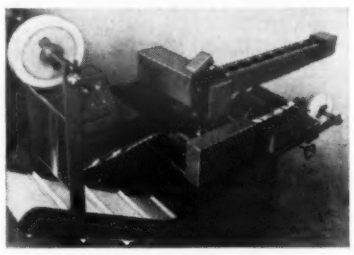
SMALL NOISELESS FAN
24-cfm unit operates quietly



Extremely low noise level is featured by Series 599YS Aximax 3 vane-axial fan which operates on 115 v ac at 3500 rpm for free air delivery of about 24 cfm. Only 2¼ in. deep with a 3-in. diameter, the unit weighs 14 oz. It has servo ring type mounting, permanent sealed-in lubrication, and screw-type terminals. Life expectancy exceeds 10,000 hr at 71° C continuous duty. • **Rotron Mfg. Co.**, Schoonmaker Lane, Woodstock, N. Y.

For more details circle NED-359 F1 on enclosed inquiry slip

TINY PARTS PACKAGER
handles items of watch part size



Items as small as watch parts are packed in any heat sealable packaging material by Model 56HS packager. Special conveyor with plastic feed cups assures positive release of minute parts into the machine for packaging in four-sided 1 x 1-in. to 5 x 6-in. sealed flexible pouches. Packages are made at speeds to 120 per minute, in continuous strip, or cut off in desired counts. Basic machine with one set of package forming dies and special conveyor costs about $5000. Printing and other accessories are extra. • **Pak-Rapid Inc.**, 18 Elizabeth St., West Conshohocken, Pa.

For more details circle NED-360 F1 on enclosed inquiry slip

MODULAR PLUG & RECEPTACLE
connects from 3 to 60 circuits

Positive polarity, exact mating, and made-to-order circuitry are features of the Molex modular plug and receptacle. It makes possible multiple connections of 3 to 60 circuits in vending and office machines, appliances, and other wiring harness devices. Additional polarization is possible by intermixing male and female terminals in plugs and receptacles. The round pin type terminals are crimped to wires and snaplock in position. They are easily removed with an ejector tool. Intermixed plugs with receptacles and a single bar receptacle with varying individual plugs permit many circuit combinations. • **Molex Products Co.**, 9515 Southview Ave., Brookfield, Ill.

For more details circle NED-361 F1 on enclosed inquiry slip

FOR SALE!

ONE 2" BORE x 4" STROKE DOUBLE ACTING CYLINDER

List Price $27.70

- BRAND NEW!
- NEVER USED!
- PACKED IN ORIGINAL CARTON!

- Ground & Polished St. St. Rod.
- Nylined Bearing.
- Honed Brass Barrel Copper-brited for resistance to corrosion.

Parts drawing will be furnished at no charge. We don't anticipate that Replacement Parts will be required . . . but if some ever are, the parts will be available from stock.

For 150,000 other such bargains write for CATALOG No. 90 before next Tuesday!

ALLENAIR CORP. 255 EAST 2nd ST., MINEOLA, N. Y.

NED-6

Name.....

Company.....

Address.....

City.....Zone.....State.....

For more details circle NED-362 F1 on enclosed inquiry slip

NEW Signode Sealer for 2" Strapping

MODEL **UB-250**

- Enforces proper sealing
- Makes stronger joints
- Stronger, lighter, shorter
- More durable

The new UB-250 with "Sure Seal" action gives double assurance of properly made joints in 2" heavy duty strapping. Once the sealing action is started, the handle stroke must be completed to release the sure-seal mechanism. Improved crimping makes for a stronger, safer joint and increases resistance to shock loads.

This new tool is stronger and lighter than previous models, three inches shorter, and requires less maintenance. Write for further information, or if you prefer, ask the Signode man near you for a demonstration.

SIGNODE STEEL STRAPPING CO.
2643 N. Western Avenue, Chicago 47, Illinois
In Canada: Canadian Steel Strapping Co., Ltd.

For more details circle NED-363 F1 on enclosed inquiry slip

NEW SIGNODE Sealer for 1¼" strapping

Model B-1435

- Enforces proper sealing
- Makes stronger joints
- Stronger, lighter, shorter
- More durable

Lighter by 4 pounds! Shorter by 3½ inches! Signode's new B-1435 heavy duty sealer guarantees properly made joints with less sealing effort. Sealing stroke must be completed to release sure-seal mechanism—virtually eliminating miscrimps. New crimp design also assures better joint strength under shock. The new tool is easy to use, requires less maintenance. Write for further information, or if you prefer, ask your nearest Signode man for an on-the-job demonstration.

SIGNODE STEEL STRAPPING CO.
2643 N. Western Avenue, Chicago 47, Illinois
In Canada: Canadian Steel Strapping Co., Ltd.

For more details circle NED-364 F1 on enclosed inquiry slip

New Signode Unlimited Take-up Heavy Duty Tensioner

Model TH

- Fast, manual action with self-energized feed wheel that holds high tension
- Takes strapping directly from the coil. Saves a foot or more of strap every time it is used
- Any type seal can be used. Seal can be placed either behind or in front of the tool
- Light weight, easy to use . . . weighs only six pounds. Makes horizontal or vertical strapping easy
- Takes strap sizes from ¾" x .028" to 1¼" x .050"—waxed, painted or coated

The "TH" is light and maneuverable, and can easily be removed from under the strapping after sealing. For additional information or for a demonstration, write:

SIGNODE STEEL STRAPPING CO.
2643 N. Western Avenue, Chicago 47, Illinois
In Canada: Canadian Steel Strapping Co., Ltd.

For more details circle NED-365 F1 on enclosed inquiry slip

YOUR GOOD PRODUCT DESERVES TO BE SHIPPED with THE PROPER MARK

MARKING RULE 6 says: freight must be stenciled or otherwise durably and plainly marked.

DURABLY means in a durable manner; lasting in spite of hard wear or frequent use. (You get durability with D-B ROL-IT-ON stencil inks.)

PLAINLY means easy to read. The marking should be as large as possible. (There is a D-B stencil machine in a letter size to meet your every marking need.)

FOR FURTHER INFORMATION WRITE . . .

DIAGRAPH-BRADLEY INDUSTRIES Inc.
P. O. BOX 269 HERRIN, ILLINOIS
DISTRIBUTORS IN ALL PRINCIPAL CITIES

For more details circle NED-366 F1 on enclosed inquiry slip

IT'S A FACT

FOR PRECISION HOLDING POWER DAY-AFTER-DAY, YEAR-AFTER-YEAR

YOU CAN DEPEND ON DE-STA-CO TOGGLE CLAMPS

Contour checking fixture with De-Sta-Co clamps quickly checks accuracy of parts against master template.

FOR MORE FACTS

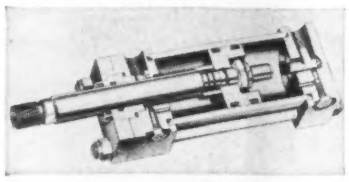
phone, wire or write for NEW 36-PAGE CATALOG

TOGGLE CLAMPS · SHIMS AND SPACERS · DE-STA-CO · STAMPINGS · BLOWER HOUSINGS

DETROIT STAMPING COMPANY
340 MIDLAND AVENUE • DETROIT 3, MICHIGAN

For more details circle NED-367 F1 on enclosed inquiry slip

HYDRAULIC CYLINDERS
1½ to 6-in. low pressure types

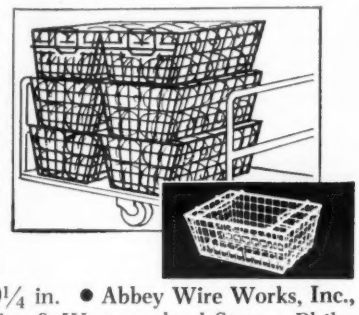


Line of low pressure hydraulic cylinders consists of 1½ to 6-in. bore diameters for pressures up to 1500 psi. Units have a steel barrel, close-fitting iron piston, and a seal arrangement that automatically lubricates the bearing at all times. Viton seals and packings are available for high temperature applications, or when special oils are used. • **Milwaukee Cylinder Co.**, 5755 S. Pennsylvania Ave., Cudahy, Wis.

For more details circle NED-368 F1 on enclosed inquiry slip

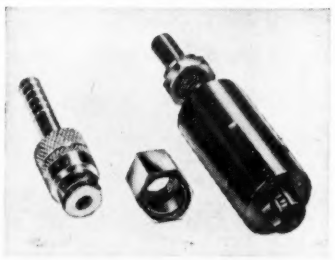
SELF-STACKING WIRE BASKETS
coated with nontoxic plastisol

Used adjacent to assembly lines, No. 1450 self-stacking wire baskets can be loaded with finished products, stacked on dollies, and transported to shipping or storage areas. A nontoxic plastisol protective coating withstands rust and corrosion in refrigerated, outdoor, or other uses. The coating also resists moisture, oil, grease, and chemical damage. Baskets measure 26¼ x 18¼ x 10¼ in. • **Abbey Wire Works, Inc.**, Industrial Div., Collins & Westmoreland Streets, Philadelphia 34, Pa.



For more details circle NED-369 F1 on enclosed inquiry slip

WATER CONNECTOR
easily attached to injection molds



Easily inserted and removed, Cox quick-release water connector for attaching water hoses to injection molds is permanently clamped in place in each hose. The mold is prepared for the flush type connection with a grooving tool which cuts a ball detent groove in the mold. The plated steel connector has O-ring seals, a ball bearing locking sleeve, stainless steel balls, and cadmium springs. Sizes for ¼ or 5/16-in. hose will convert to ⅛, ¼, or ⅜-in. American standard pipe thread. Also available is a collar adapter which is permanently screwed into the present fitting for interim use of the mold with regular pipe fittings. • **L. M. Cox Mfg. Co.**, 730 Poinsetta St., Santa Ana, Calif.

For more details circle NED-370 F1 on enclosed inquiry slip

Print it as you make it!

New Automatic Continuous Printing Attachment

Ideal for any material processed in web, sheet, or strip form

Saves cost of separate printing operation. Foolproof and fully automatic—requires no attention during operation, no skill to service. Models to print repeat legends 1" to 36" wide and up to 30" long . . . or continuous designs . . . as part of regular production operation. Suitable for paper, boxboard, plastics, textiles, linoleum, rubber, sheathing, wallboard, gasket material, laminates, metal, etc.

First and foremost in automatic production-line CODING, MARKING and IMPRINTING machines. Gottscho®

Write today for Bulletin "RIN-15"
GOTTSCHO DEPT. N
HILLSIDE 5, N.J.

In Canada: Richardson Agencies, Ltd. • Toronto & Montreal

For more details circle NED-371 F1 on enclosed inquiry slip

PLATECOIL®

FOR ALL KINDS OF TANK AND PROCESS HEATING AND COOLING

- Built to fit application requirements
- High heat transfer capacity
- Compact units save space
- Easy to install
- Easy to remove for cleaning
- Available in variety of weldable metals
- Operating Pressures up to 250 psig.

"Platecoil" can be furnished to comply with ASME code

Send for Bulletin P57

PLATECOIL® DIVISION

TRANTER MANUFACTURING, Inc., LANSING 9, MICHIGAN

For more details circle NED-372 F1 on enclosed inquiry slip

FREE

unusual . . . . upset forgings by COMMERCIAL

Bulletin 600-P1 available now. Write to Commercial Shearing & Stamping Co., Dept. J-23, Youngstown 1, Ohio.

COMMERCIAL shearing & stamping

For more details circle NED-373 F1 on enclosed inquiry slip

You can even read this scale around corners—up to 100 ft. away!

only Martin-Decker has this Eye-Level Remote Indicating Crane Scale!

Minimum headroom requirement gives you more stacking space • Full 360° dial makes indicator easier to read, more accurate • Exclusive sensater-type load cell eliminates surface friction • Full tare adjustment to manually zero out boxes, baskets, hooks, etc. • High safety factor—ultimate strength more than 5 times rated capacity. Dial crystal is shatter resistant optic plastic • All scales available in metric calibrations.

Write for Technical Brochure T46

The standard Martin-Decker Sensater Crane Scale has all of the precision features of the remote model.

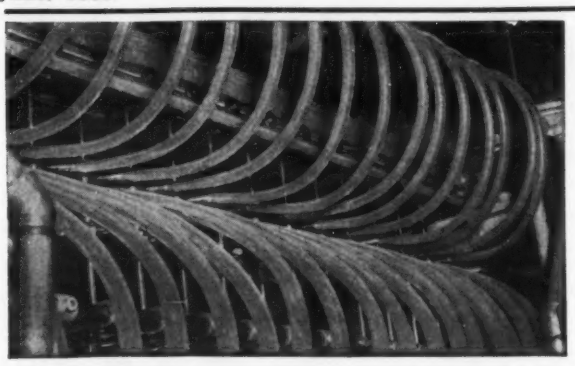
MARTIN DECKER SCALES

MARTIN DECKER

Precision Pressure Instruments Testing—Weighing—Load and Force Measurement

MARTIN-DECKER CORPORATION • 3431 Cherry Ave., Long Beach 7, Calif.

For more details circle NED-374 F1 on enclosed inquiry slip



TYGON® flexible plastic TUBING

- *Virtually Unlimited Applications*
- *Quick and Easy to Set-Up*

Tygon Tubing offers a unique combination of advantages. Its glass-like clarity permits visual inspection and control of flow. It resists oils, greases and chemicals. Because of its extreme flexibility, Tygon Tubing can be installed in minutes. Its hard, smooth bore is easily flushed clean. Physically tough and abrasion-resistant, Tygon Tubing provides long, trouble-free service life.

Tygon Tubings are available to handle full vacuums, or braid-reinforced to withstand pressures up to 300 psi. Over 65 sizes are available up to 4" I.D.

440F-1

Write for free Bulletin T-100...today!

U. S. STONEWARE
AKRON 9, OHIO

For more details circle NED-375 F1 on enclosed inquiry slip

one stands out!

AERO-SEAL JET®
WORM DRIVE HOSE CLAMP

Clamps may come in an assortment of shapes and mechanisms in an effort to duplicate some of the features of the AERO-SEAL JET, but one still stands out, and that is the AERO-SEAL JET itself.

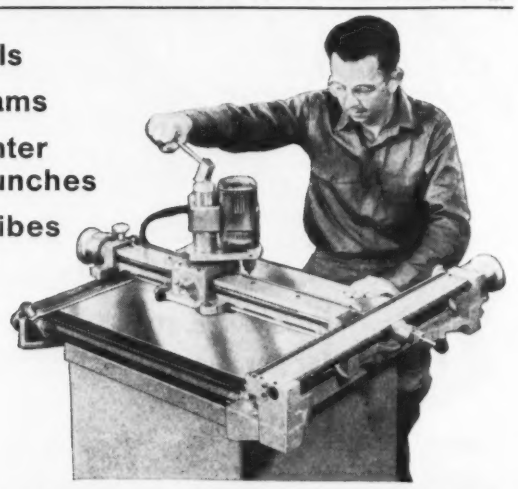
This is because it provides all of the advantages of precision worm drive, plus almost instantaneous installation or removal. Bands and housings are of 302-18-8 stainless steel. All stainless if desired. Regular AERO-SEAL design also available.

Be sure to get Genuine AERO-SEALS. Ask your supply house.

BREEZE CORPORATIONS, INC. BREEZE MARK
700 Liberty Ave., Union, N.J. • Cable Address: Breeze, Union, N.J.

For more details circle NED-376 F1 on enclosed inquiry slip

Drills
Reams
Center punches
Scribes



STRIPPIT FLEX-O-DRILL

Saves time. No base line drawings or vernier height gauges required. Anybody who can read blueprints and knows anything about layout practice can work the STRIPPIT Flex-O-Drill in just a few minutes.

Greater accuracy. Adjustable steel tape positions bridge and drill carriage rapidly—then micrometric gauges bring setting to the nearest 0.001" in seconds. Capacity is ¼" mild steel—up to 24" width—any length.

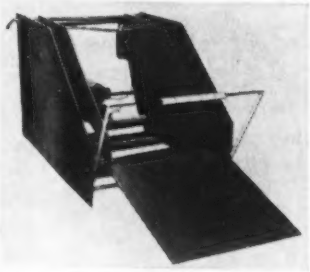
Ask about free demonstration in your plant.

UNIT OF HOUDAILLE INDUSTRIES, INC.

WALES **STRIPPIT** INC.
227 Buell Road • Akron, New York

For more details circle NED-377 F1 on enclosed inquiry slip

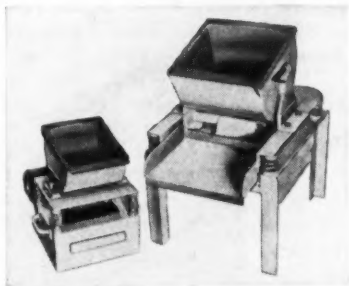
COIL CRADLE
modified to handle 30-in. material



Standard R-304 Powerroll coil cradle has been modified to handle up to 30-in. wide material at speeds as slow as 10 fpm. Drive is through a worm gear speed reducer. Unit is demand controlled by a combination actuator switch and loop control which operates on 90 per cent captive air. This eliminates possibility of trouble in oily, dusty atmospheres. Electrical control on rear of unit provides forward or reverse operation, and has an off position for safety while loading. • **Medelton Co.,** 262 E. Third St., Mt. Vernon, N. Y.

For more details circle NED-378 F1 on enclosed inquiry slip

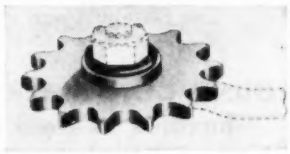
DEBURRING MACHINES
1 and 3-gal vibrating type units



Finishing of short-run parts is done in two Ferra-Burr vibration type deburring machines, neither of which requires anchoring in position. The 1-gal capacity portable bench machine (left) is emptied by removing it from its mount. Larger 3-gal machine (right) swivels and dumps into a receiving pan. Both have totally enclosed motors. Respective prices are $275 and $475. • **Ultramatic Equipment Co.,** 1948 N. Cicero Ave., Chicago 39, Ill.

For more details circle NED-379 F1 on enclosed inquiry slip

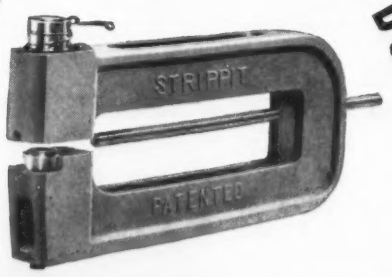
IDLER SPROCKETS
have oil-impregnated bearings



Bearing - equipped Uni-Mount idler sprockets are fully assembled to simplify installation on all types of equipment using roller chain drives. Steel sprockets are precision machined and case-hardened for long wear. The oil-impregnated bearing is press fitted in the sprocket bore and slip fitted over the case-hardened steel journal. Sprockets have 1-in. bore length, 1½-in. hub diameter and are made with 14 to 20 teeth in pitch diameters from 2.397 to 4.152 in. Outside diameters range from 2.59 to 4.45 in. They are priced from $4.90 to $6.15 in stock sizes. • **Diamond Chain Co.,** 402 Kentucky Ave., Indianapolis 7, Ind.

For more details circle NED-380 F1 on enclosed inquiry slip

PROFIT UP • INVENTORY DOWN



WITH **STRIPPIT** SELF-CONTAINED HOLE PUNCHING **UNITS**

If you punch material up to 3/4" thick, consider the advantages of STRIPPIT self-contained units. Various patterns of round and shaped holes can be quickly and easily assembled. The units may be used over and over again in any combination for punching and notching sheet metal. No large die inventory... just interchangeable STRIPPIT units. Practically no press down time... complete set-up goes into press as soon as previous run is finished. No "dead storage"... both units and components are interchangeable... just disassemble and use for a new pattern. Result... PROFIT UP!

If you are interested in increasing your company's profit, consult our STRIPPIT Tool and Methods Engineers or write for Catalog.

UNIT OF HOUDAILLE INDUSTRIES, INC.

WALES **STRIPPIT** INC.
227 Buell Road • Akron, New York

For more details circle NED-381 F1 on enclosed inquiry slip

R & M "Build-It-Yourself" Crane Components

Save up to 30% by using R&M components to build your own crane in spans through 50 feet, capacities through ten tons. R&M supplies all parts, except structural steel and drive shaft. Four types of end truck assemblies meet every requirement—motor-driven or hand-geared operation, top running or underhung. Center drive assembly provides two gear reductions, motor, magnetic disc brake, single or variable speed or accelerating fluid drive. Components include magnetic controls, cross shaft bearings and couplings, current collectors, push button station. Drawings furnished. Write for Bulletin 900-5NE

take it up with

ROBBINS & MYERS, INC.
SPRINGFIELD / OHIO, U.S.A.

For more details circle NED-382 F1 on enclosed inquiry slip

NEW FROM ROCHESTER INSTRUMENTS...

NOW!
The first direct-action differential pressure gauge

Simply designed, this gauge measures pressure drop between two points, or will indicate flow in a system. The system pressure exerts its force against the bottom side of the diaphragm while the downstream pressure is exerted against the top of the diaphragm. The resulting difference (pressure drop) is mechanically transmitted through an "O" ring type seal to a unique linkage system to move the pointer and indicate "Differential Pressure" on the dial. A heavy-duty restrained diphragm type indicating gauge, its differential pressure range is 0-15 psi through 0-150 psi. The maximum system pressure is 150 psi. Dials may be zoned or calibrated with 10-0-10 through 75-0-75 scales available. Stem front flange or panel mount.

Write for complete information, Cat. Sheet No. DPI-60.

American Standard, Controls Division
Rochester Instrument Plant
114 Rockwood St., Rochester 10, N. Y.

ROCHESTER

AMERICAN-Standard
CONTROLS DIVISION

For more details circle NED-383 F1 on enclosed inquiry slip

STRIPPIT HYDRA SPRINGS

600%
MORE FORCE THAN MECHANICAL SPRINGS

STRIPPIT Hydra Springs, using compressable liquids, develop up to 600% more force than mechanical springs of comparable size And you can vary their force by using different types or volumes of Comproil Six standard models develop forces from 2,200 lbs to 8,500 lbs and operate with strokes ranging from 1/4" to 1-1/2" Spring rates run from 2,200 to 32,000 lbs /in

STRIPPIT HYDRA SPRINGS offer an ideal solution when limited space is a consideration. Heavy duty uses include application with dies, perforating equipment, machine tools and plastic injection dies, cable tensioning devices, and retarding mechanisms Write for Catalog K

UNIT OF HOUDAILLE INDUSTRIES, INC.

WALES **STRIPPIT** INC.
227 Buell Road • Akron, New York

For more details circle NED-384 F1 on enclosed inquiry slip

puritan ropes can save you money!

depend upon it...

. . . because Puritan manufactures a wide variety of synthetic and natural fiber ropes designed to meet specific work load requirements! Matching the right rope to the right job saves breakage and replacement costs, down-time, makes jobs go faster, smoother, more safely. Special attention given to specific industrial application problems.

PURITAN CORDAGE MILLS, INC.
1205 E. Washington Street
Louisville 6, Kentucky

For more details circle NED-385 F1 on enclosed inquiry slip

INDUSTRIAL EPOXY RESIN IN TUBES

ACTUAL SIZE • 11 OZ. INDUSTRIAL METALSET A4

Just squeeze out equal amounts from each Metalset A4 tube, mix and apply. Use only what you need. Save the rest for the next job.

Smooth-On's Metalset A4 can be used in any thickness, is water and oil proof, chemically stable and has great adhesion.

Typical repairs include leaks in tanks, pipes; caulking conduits, flues, casements; filling holes in metal and wood; tightening loose parts; anchoring bolts and screws in wood, concrete and plaster.

Order from your industrial distributor; if he does not yet stock Metalset, order direct from us. Six ounce unit is $1.98, eleven ounce unit is $2.98. Also available in units of cans. Descriptive bulletin is available on request.

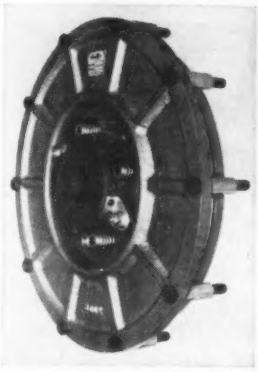
80443

METALSET®

Made by Smooth-On Manufacturing Company
572 Communipaw Avenue, Jersey City 4, N. J.

For more details circle NED-386 F1 on enclosed inquiry slip

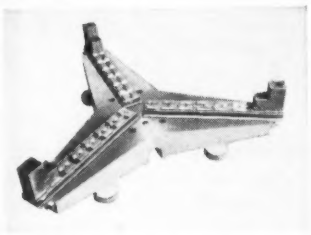
AIR CLUTCH & BRAKE
operable from 500 to 600° F



Heat generating pressure plates of the Power Flo air clutch and brake are located on the outside to promote good heat dissipation, cool operation, and long life. Friction linings are easily adjusted and a self-centering ring eliminates internal clutch drag. Usable at temperatures up to 500-600° F, the unit incorporates a silicone rubber diaphragm and Fiberglas reinforcement for high strength. Presently in production are 16 and 18-in. sizes with slip torque ratings of 32,500 and 52,200-lb-in., respectively, at 80-psi air pressure. Ratings for these sizes vary from 15,000 to 49,700 lb-in. and 24,000 to 80,000 lb-in. with air pressures from 40 to 120 psi. Soon to be available are 12, 14, 20, 22, 25, 28, 32, and 36-in. sizes with ratings from 5400 to 776,000 lb-in. over the above pressure range. • **Mid-States Industrial Clutch Co.**, Box 848, Wichita, Kans.

For more details circle NED-387 F1 on enclosed inquiry slip

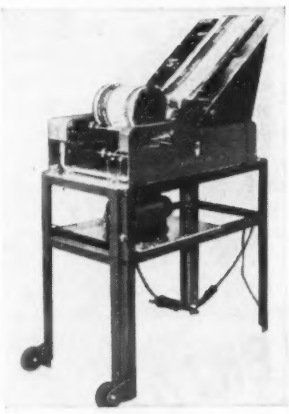
THREE-JAW CHUCK
has 3 to 40-in. capacity



Standard size of this three - jaw, self-centering chuck has a capacity from 3 to 40 in., although larger and smaller sizes are available. The positioner is used in welding and flame hardening applications and is sealed against dirt and abrasive materials. Hardened steel jaws open and close at a turn of a wrench to automatically center the work. Unit mounts on headstock, turntable, or positioner and can be fitted with special jaws. • **Skinner Precision Industries**, Skinner-Horton Chuck Div., 95 Edgewood Ave., New Britain, Conn.

For more details circle NED-388 F1 on enclosed inquiry slip

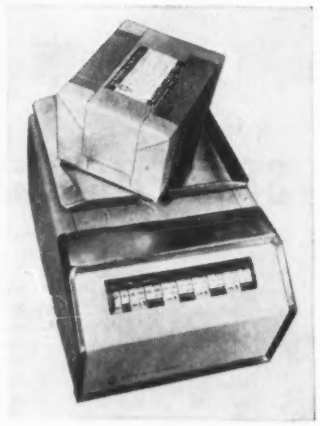
ROUND CONTAINER LABELER
handles 16 1-gal cans per minute



Nearly three times as fast as hand labeling, Model 14C round can labeler affixes spot, face, or wrap-around labels on half-pint, pint, quart, or gallon round containers. It can handle up to sixteen 1-gal cans per minute, including those with ears. Labeler is mounted on a mobile floor stand with casters and is powered by a ½-hp motor with variable speed control. It can be used for steel, tin, glass, plastic, or fiber containers. • **Labelette Co.**, 216 S. Jefferson St., Chicago 6, Ill.

For more details circle NED-389 F1 on enclosed inquiry slip

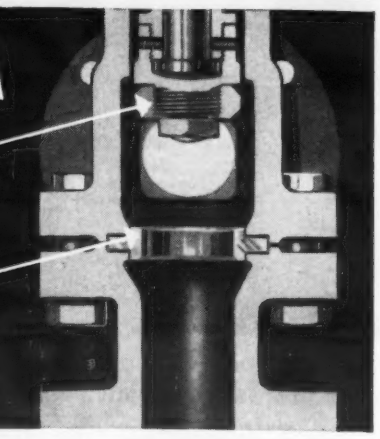
PARCEL POST SCALE
has capacity of 40 lb



Suited for those who mail between First Class post offices for which the weight limit is 40 lb, Model 3740 parcel post scale is accurate and easy to use. A lighted gunsight postage indicator automatically computes the correct postage for the zone and class of mail desired. Features include 13 x 17-in. size, 10-in. height, adjustable platform oscillation for fast reading, sealed ball bearings, adjustable three-point leveling, and a large, easily-read postage chart. • **Pitney-Bowes, Inc.**, Walnut & Pacific Streets, Stamford, Conn.

For more details circle NED-390 F1 on enclosed inquiry slip

EXTRA SEAT and DISC FREE



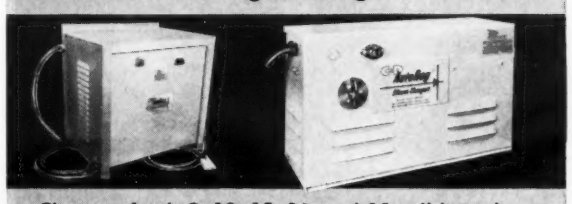
in every Homestead® Boiler Blow-Off Valve! Simply reverse ground-and-mated Monel seat and disc and you have a valve as good as new. These Hovalco Angle Valves, built to outlast your boiler, resist corrosion and erosion. They throttle, control rate of blow-off, give long service. Easy inspection, quick repair. Used in tandem with any of three types of Homestead Quarter-Turn Plug Valves, Hovalco Angle Valves meet all requirements of State and Province Boiler Laws and A. S. M. E. Code. Write for catalog.

hv **HOMESTEAD VALVE MANUFACTURING COMPANY**
"Serving Since 1892"
P. O. Box 84, Coraopolis, Pa.

For more details circle NED-391 F1 on enclosed inquiry slip

USE ELECTRIC INDUSTRIAL TRUCKS?

Get simplified charging; lower maintenance costs with a C & D *AutoReg*® charger



Chargers for 6, 9, 12, 15, 16, and 18-cell batteries
Choice of overnight or 8-hour chargers

ALL MODELS
- Provide long, trouble-free life.
- Eliminate need for skilled personnel.
- Are fully automatic.
- Charge same number of cells with smaller A.H. capacity without adjustment.
- Eliminate aging adjustments.

C&D *AutoReg* Silicon Chargers

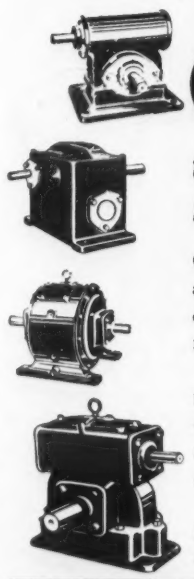
Write for complete details—
12-, to 18-cell batteries, Bulletin AR-109
6- and 9-cell batteries, Bulletin AR-110

A PRODUCT OF C & D BATTERIES DIV., THE ELECTRIC AUTOLITE CO. OF CONSHOHOCKEN, PA.

For more details circle NED-392 F1 on enclosed inquiry slip

Abart SPEED REDUCERS

Designed and Constructed for Continuous Rugged Service



trouble-free, economical drives for any speed reduction need

Compact, precision built Abart units are available in a wide range of models from fractional to 168 hp. ratings, ratios to 10,000 to 1.

Worm, spur and combination gear models — single or double reduction — are supplied in 75 different types and sizes with any desired shaft arrangement.

Write today for Abart's hand pocket size speed reducer catalog.

ABART GEAR and MACHINE CO.

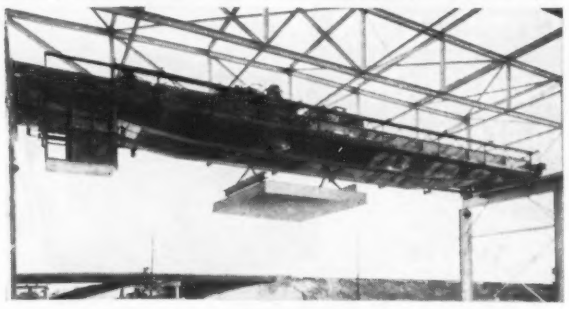
4831 WEST 16th STREET • CHICAGO 50, ILLINOIS

For more details circle NED-393 F1 on enclosed inquiry slip

Custom-Engineered CONCO CRANES

fit* the job, *do* the job . . . *Better

Conco Crane Installation at Underwriters' Laboratories, Chicago



Conco Cranes are engineered to fit your job like a glove. And because custom-building is standard-practice at Conco, special crane features are practically priced. Write us for Bulletin 5000A covering the complete line of Conco cranes, hoists and trolleys.

Material Handling Division
CONCO ENGINEERING WORKS, INC.
57 Grove Street, Mendota, Illinois
AFFILIATES
Spartan Tool Division—Powered Sewer Cleaning Equipment
Field Control Division—Barometric Draft Controls
Conco Building Products, Inc.—Brick, Tile, Stone

CRANES CONCO HOISTS

For more details circle NED-394 F1 on enclosed inquiry slip

Magnatrol SOLENOID VALVES

. . . ARE RUGGEDLY AND ACCURATELY CONSTRUCTED TO GUARD AGAINST COSTLY FLOW FAILURES.

The entire operating mechanism of Magnatrol Solenoid Valves can be **cleaned, repaired** or **replaced** WITHOUT removing the valve body from the pipe line or breaking flexible electrical leads.

This unusual design advantage plus the fact that every Magnatrol Valve is CUSTOM ASSEMBLED and FACTORY TESTED . . . means greater dependability.

Available in normally closed and normally open models, in pipe sizes from ¼" to 3". Pressure ranges from zero up to 500 psi.

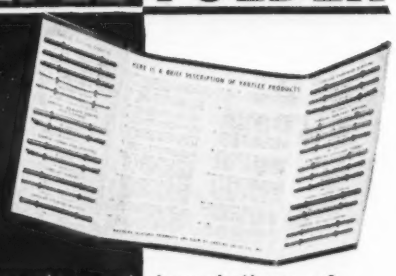
Catalog containing complete specifications mailed upon request.

Magnatrol **VALVE CORPORATION**
HAWTHORNE 8, NEW JERSEY

For more details circle NED-395 F1 on enclosed inquiry slip

Send for this FREE SAMPLE FOLDER

CONTAINS **25** different test samples of high-dielectric Insulating Tubing and Sleeving.



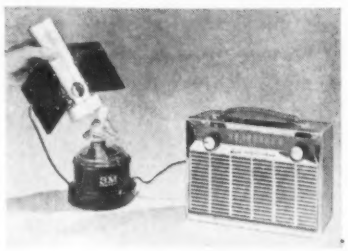
Includes samples and descriptions of:

- Varglas Silicone
- Permafil-Impregnated Varglas Tubing
- Varglas Tubing and Sleeving
- Varglas Non-Fray Sleeving
- Varflo Tubing and Sleeving
- Varflex Cotton or Rayon Sleeving
- Syntholvar Extruded Tubing

Varflex CORPORATION
Write Today!
510 W. Court St.
Rome, N.Y.

For more details circle NED-396 F1 on enclosed inquiry slip

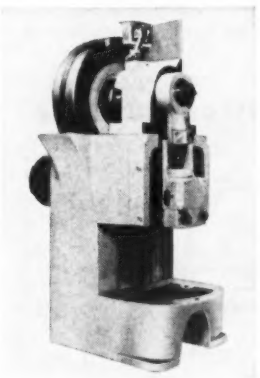
THERMOELECTRIC GENERATOR operates 24 hr on 1 pt of fuel



Designed for use as a single emergency power source, the Aztec portable thermoelectric generator is capable of powering a transistor radio. It also provides low level lighting and a source of heat in the event of a power failure. Generator provides a power source that can be stored for long periods without deteriorating. One pint of kerosine or fuel oil will operate the unit for 24 hr. A built-in transistorized converter changes the 0.75-v, ½-w electrical output to the 3 to 9 v required to operate most transistor radios. • **Minnesota Mining & Mfg. Co.**, 900 Bush Ave., St. Paul 6, Minn.

For more details circle NED-397 F1 on enclosed inquiry slip

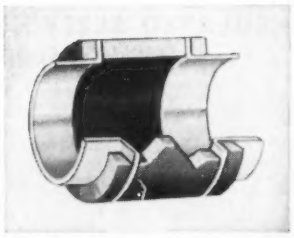
PUNCH PRESSES in 3 and 5-ton capacities



Easily accessible flywheel, crankshaft, connecting rod, and ram; rear mounted flywheel; and a new self-contained interchangeable power transmission, although shown uncovered, are totally enclosed on this Kenco Kompac punch press. Transmission unit is available in various stroke lengths from ¼ to 2 in. and can be changed quickly. The precision punch press is offered in 3 and 5-ton capacities and is equipped with a ⅓-hp, 1750 rpm motor and foot or hand control switch. Power units contain a one-piece crankshaft mounted on heavy roller bearings in a lubrication reservoir, a quiet Cyclo-Safe roller clutch, solenoid-operated trip action, and a precision brake. Frame is a multiple ribbed 60,000 psi sorbitic casting. • **Kenco Mfg. Co.**, 5211 Telegraph Rd., Los Angeles 22, Calif.

For more details circle NED-398 F1 on enclosed inquiry slip

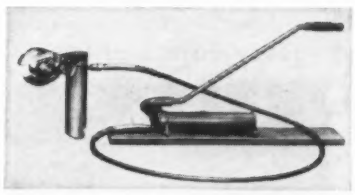
ALUMINA CERAMIC PARTS for production metallizing



High alumina ceramic parts and components for production metallizing are formulated for electronic usage in vacuum tubes and semiconductor assemblies. Any metal, including nickel, tungsten, copper, and cold-rolled or stainless steel, can be used in the assembly. Metallizing can be performed with moly-manganese, titanium, hydride reactive metal, or other suitable processes. Spray drying of ceramic bodies is used. Shown is a typical butt seal with alumina ceramic body and ceramic insulating rings. Between these components are sandwiched a metal collar and rings to form a vacuum-tight assembly. • **Diamonite Products Mfg. Co.**, Shreve, Ohio.

For more details circle NED-399 F1 on enclosed inquiry slip

HYDRAULIC CABLE CUTTER easily cuts up to ¾-in. cable



Cable, wire rope, and stranded guy wire with diameters up to ¾ in. are easily and safely cut with the 1790TN hand-hydraulic notched shear cutter. Jaws are notched to lock cable in during cut, and cutting edges pass each other for complete shear action. Cutting action is produced by a fast-acting, lever-operated pump connected to the ram assembly by a high-pressure hose. It delivers 25,000 psi pressure on the cutting edges of the blades. Simple adjustment compensates for wear. Models are also offered for cutting medium hard rods, bars, and wire diameters up to ¾ in.; copper and aluminum communication cable up to 2 in.; and cable up to 3 in. • **H. K. Porter, Inc.**, 74 Foley St., Somerville 43, Mass.

For more details circle NED-400 F1 on enclosed inquiry slip

new Versatile 22 x 14 x 5

Stack-n-Nest® TOTE PAN

This new Lewis Stack-n-Nest tote pan has been designed to work in conjunction with the popular 22 x 14 x 8 size. Pans will interstack and internest. Covers and dollies can also be utilized as shown.

- 22 x 14 COVER
- 22 x 14 x 5 PAN
- 22 x 14 x 8 PAN
- 22 x 14 DOLLY

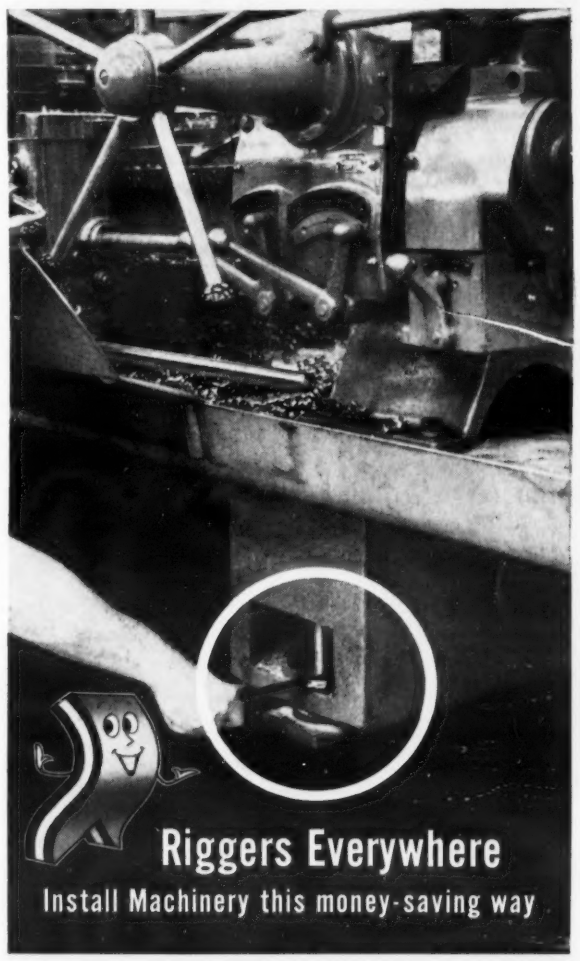
Molded in one-piece of Fiberglass reinforced polyester, these pans stack and nest within their own dimension, without mechanical gadgets. Can't rust, rot, corrode . . . exceptionally strong. Available in 9 sizes. Covers and dollies for several sizes available.

SHIPMENT WITHIN 24 HOURS FROM RECEIPT OF ORDER

Write today for illustrated brochure and prices.

G.B. Lewis COMPANY
406 Montgomery Street, Watertown, Wisconsin

For more details circle NED-401 F1 on enclosed inquiry slip



Watch the way the experts — the riggers — move machinery! They work with Unisorb pads and Level-Rite mounting devices — save up to 80% in installation time and costs. Unisorb simplifies and speeds machinery relocation. No bolts, lag screws or time-consuming drilling is necessary. Labor savings at installation actually pay for Unisorb — and then some!

What's more, Unisorb Mounts eliminate up to 85% of transmitted vibration and noise — increase machine life, efficiency and speed — step up machine and worker productivity. Maintenance costs of machinery and buildings are lowered. Level-Rites, now available in 11 models, can take loads from 200 to 7500 lbs. All types of machines can be mounted on all types of floors. Ask for a Money-Back Trial . . . NOW!

See your local distributor

UNISORB LR LEVEL-RITE MOUNTS For heavy duty. Exclusive screw post design, steel base plate, Unisorb pad.

UNISORB LR 200 and LR 500. "200" is for business machines, light machine tools. "500" is for light duty machine tools.

UNISORB UL — Base plate (with recessed center) Unisorb Pad combination for machines with built-in leveling screws.

UNISORB MOUNTING PADS — the basic vibration control unit. Takes the big tonnages. Many densities and thicknesses.

UNISORB

UNISORB 224 SOUTH STREET, BOSTON 11, MASSACHUSETTS
Division of THE FELTERS COMPANY

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Please send me a Unisorb Sample and Free Book

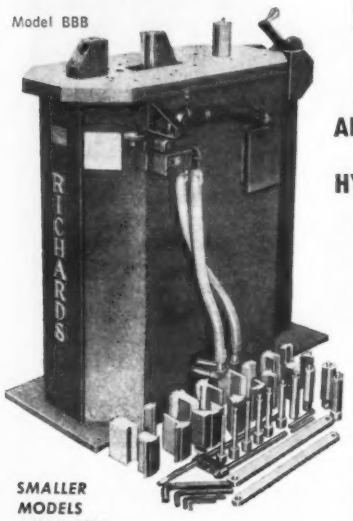
Name .....
Company .....
Address .....
City ..... Zone ..... State .....

For more details circle NED-402 F1 on enclosed inquiry slip

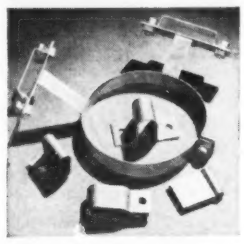
Multiform

BIG BROTHER BENDER

Model BBB



SMALLER MODELS AVAILABLE



Illustrated above are a few of the many forms that can be produced efficiently on the Multiform Bender.

AIR OPERATED MODELS IN FOUR SIZES HYDRAULIC—3 MODELS

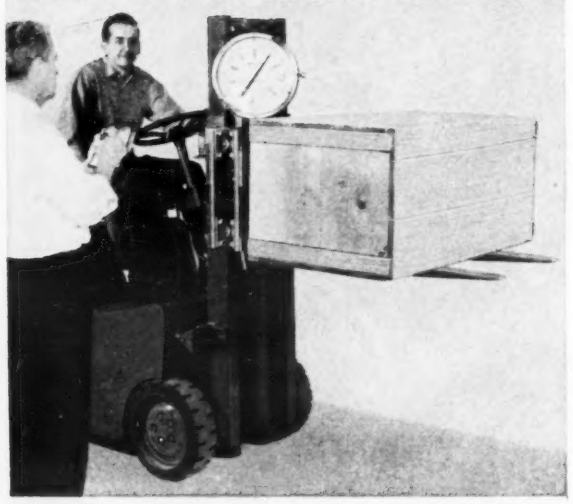
The heavy duty Big Brother Bender is designed for fabricating bus bars, brackets, fixtures, etc., without special tooling. Air controlled with finger tip response. Comes complete with dies, mandrels and wrenches—punching and blanking dies extra. Will punch holes up to 1" and form material up to 1/4" thick by 4" wide. We also build smaller models, hand or air operated, for bending materials up to 1/8" x 1 1/2".

Send for illustrated folder M6

J. A. RICHARDS CO. Myrtle & Pitcher Sts. Kalamazoo, Mich.

For more details circle NED-403 F1 on enclosed inquiry slip

Automatically Weigh **ANYWHERE! with a HYDROSCALE® on YOUR fork lift truck**



The World's Largest Manufacturer of Hydraulic Scales now provides a Scale "used as an attachment" on lift trucks that is accurate, rugged and dependable. This scale unit on your lift truck now makes possible a mobile platform scale that can be used anywhere in your plant, storage yard or truck loading dock. A few of many applications include—loading, unloading, check weighing, batching, foundry charging and protecting your equipment from overloading.

SELF CONTAINED this scale unit is a complete weighing system as received in your plant.

No connection to your lift truck hydraulic system. Can be used with gasoline, propane or battery powered trucks.

- Standard Dial Mountings can be rotated 180° for different dial reading requirements.
- All Lift Truck Hydroscales are designed with overall dimensions to be within your truck width.
- Attach to your lift truck the same as forks. It takes only five minutes—models available to fit plate or Bar Type Fork Mountings.
- **GUARANTEED**—Under normal use the scale is guaranteed against defects in material, workmanship and accuracy for a period of 1 year from date of shipment from our plant.

IMAGINE . . . the savings in your weighing operations with the "Hydroscale" mounted on your Fork Lift Truck!

"World's Largest Manufacturer of Hydraulic Scales"

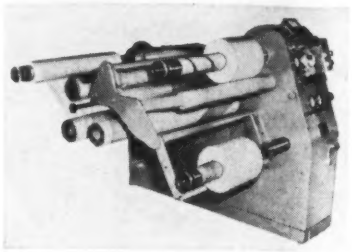
Write for Catalog No. 161

HYDROWAY SCALES, INC.

31288 Stephenson Highway Royal Oak, Mich.

For more details circle NED-404 F1 on enclosed inquiry slip

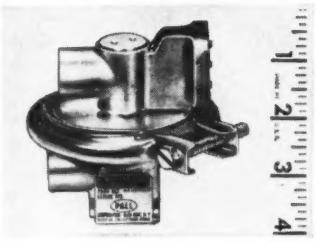
DOCTOR MACHINE RESLITTER handles wide range of materials



Besides handling normal salvage operations, the Model 184 doctor machine reslitter is also usable for inspection or separating, production slitting, staggered multiroll winding, and single roll winding or rewinding. A wide range of materials, including papers, laminated stock, films, pressure sensitive tapes, and polyethylene, can be doctored, slit, and rewound automatically and continuously. The rewind roll diameter limit is 18 in. To assure edge quality on light films, an air-operated rider is available to remove trapped air during rewinding. Reslitter is powered by a variable speed electronic drive connected to the pull roll section and to the duplex rewind shafts. Standard web speed is 1000 fpm. Constant tension unwind, automatic web guide, and standard slitting equipment are supplied. • **Stanford Engineering Co.**, Salem, Ill.

For more details circle NED-405 F1 on enclosed inquiry slip

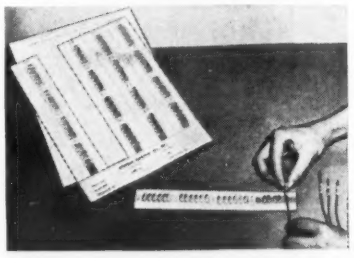
PRESSURE SWITCHES unaffected by 250-psi overpressure



Adjustable actuation range from 0.125 to 16 psi is incorporated in Deltadyne pressure and differential pressure switches for industrial and airborne systems. System pressures or overpressures up to 250 psi do not damage the units or cause leakage. Switches operate by means of a magnet mounted in a spring-biased elastomeric diaphragm on which the differential pressure acts. A magnetic detent causes the switches to be completely actuated or disconnected at all times. Standard models have aluminum housings; stainless steel, brass, and other metals are available. They are usable on all types of fluid lines, pneumatic and compressed gas systems, hydraulic systems, and various process streams where an alarm device is required. • **Pall Corp.**, 30 Sea Cliff Ave., Glen Cove, N. Y.

For more details circle NED-406 F1 on enclosed inquiry slip

INSULATED SLEEVING taped to assembly work cards



Cut lengths of Indensulation insulated sleeving are secured to perforated assembly work cards with adhesive-backed tapes to facilitate production assembly in wiring electrical and electromechanical equipment. The coded tubing is arranged in numerical, alphabetical, or subassembly order. Sleeving is offered in a range of standard insulating materials, including shrink-on types, and in various colors. Stock items in ASTM sizes 24-1 1/2 in. and imprinted with standard codes are delivered within 24 hr. • **Manger Electric Co.**, N. State Street, Stamford, Conn.

For more details circle NED-407 F1 on enclosed inquiry slip

EAR PROTECTORS adapt to most safety caps

Fittings supplied with Model 372-26K Straightaway ear protectors adapt them for attachment to the dome of most safety caps. Protectors effectively attenuate high noise levels in missile and rocket testing, aviation, construction, and metalworking areas. A communication model is also available. • **David Clark Co.**, 360 Park Ave., Worcester, Mass.

For more details circle NED-408 F1 on enclosed inquiry slip

STOP COSTLY CORROSION DAMAGE TO PLANT FLOORS

SEND FOR THIS FREE BOOK TODAY!

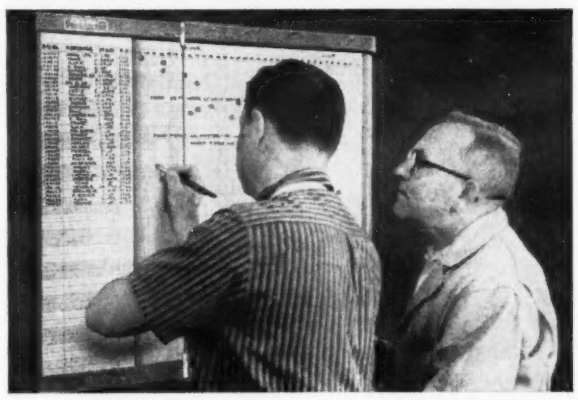
WITH

COROCRETE MONOLITHIC FLOORING

Corocrete protects concrete floors from acids, alkalis and solvents. It costs less than acid-proof brick . . . takes less time to install . . . can be walked on 6 to 8 hours after application. Four times stronger than concrete, corrosion-resistant Corocrete is widely used in chemical, food processing, plating and metalworking plants. Send for complete information now.

CEILCOTE 10275-CC **THE CEILCOTE COMPANY, INC.** 4838 Ridge Road • Cleveland 9, Ohio

For more details circle NED-409 F1 on enclosed inquiry slip

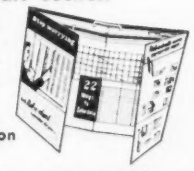


"Slickest visual control..."

states *Factory* magazine. Entries made directly with marking pencil on a rolling "Mylar" sleeve which *moves with time*, bringing deadlines constantly closer. Entries easily erased.

Send for ***FREE GUIDE to Control Methods*** with full-scale, sample chart section

Shows how Rol-a-chart controls 22 different items: orders, production, data processing, maintenance, dispatching, sales, etc. Also expert consultation service with no obligation.



Rol-a-chart Division

Conley, Baltzer & Steward, 494 Jefferson Street, San Francisco 9

For more details circle NED-410 F1 on enclosed inquiry slip

MAKES NARROW AISLES POSSIBLE

Stacks rolls or pallet loads higher than 30 feet!

Crane plus Stacker serves multiple aisles too narrow for lift trucks. Safety controls prevent over-run. Our Stacker added 180,000 cu. ft. of usable storage to one building—saved cost of a new warehouse!

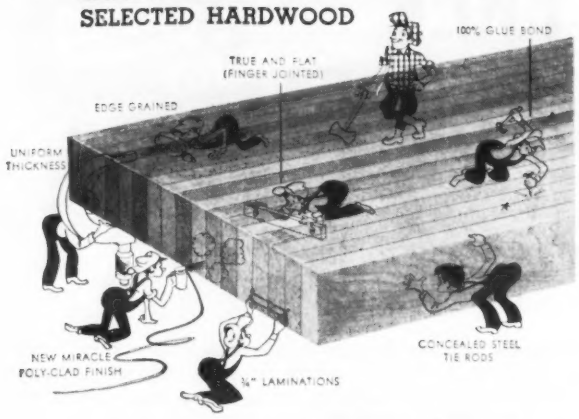
Write for "Stacker Bulletin"

AMERICAN MONORAIL 1116 E. 200th STREET CLEVELAND 17, OHIO

For more details circle NED-411 F1 on enclosed inquiry slip

BENCH TOPS

LAMINATED
SELECTED HARDWOOD

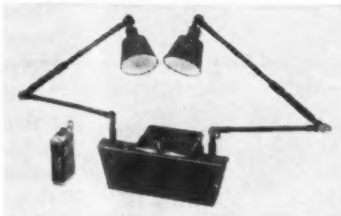


• Tolerton tops are available from 1¼" to 4" thick, in widths and lengths to meet any requirement. Maple or steel base units also available in wide variety of sizes and styles. Write for technical, descriptive brochure.

Established 1894
TOLCO THE TOLERTON COMPANY
265 N. Freedom Avenue • Alliance, Ohio

For more details circle NED-412 F1 on enclosed inquiry slip

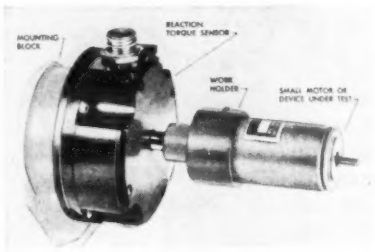
STEREO WORK LAMP provides shadowless lighting



Both lamps on the Model 5917 stereo work lamp have three joints and are connected to the base by means of a phone plug for 360-degree rotation. Lamp arms can be used in any position for shadow-free illumination in inspection, assembly, and other operations. A two-stage switch on the base provides for high and low light levels. At a working distance of 12 in., the high light level provides 400 ft-c and the low level gives 160 ft-c. Cork insulated light shades have a 2½-in. diameter. A 7½-ft extension cord is provided. • **Tensor Electric Development Co.,** 1873 Eastern Parkway, Brooklyn, N. Y.

For more details circle NED-415 F1 on enclosed inquiry slip

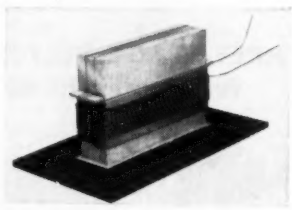
REACTION TORQUE SENSOR measures static and dynamic torque



Torque of small motors, bearing friction, stepping switches, torsion springs, rotary solenoids, and drilling is measured accurately with this Model RTS reaction torque sensor. It acts by restraining the case of the test device, can be used in any position, and is available in capacities of 0 to 10, 50, 100, 200, 500, and 1000 oz-in. • **Lebow Associates,** 14857 W. 11 Mile Rd., Oak Park 37, Mich.

For more details circle NED-416 F1 on enclosed inquiry slip

ULTRASONIC TRANSDUCER for various cleaning functions



Metallically bonded to a ¼-in. thick Type 316-L stainless diaphragm, the Omnimite magnetostrictive transducer makes possible uninterrupted cleaning on a continuous basis. It reportedly will not break, crack, depolarize, deteriorate, become detached, or in any way cease to function for the lifetime of the Bendix Sonic Energy cleaning system in which it is used. Numerous applications are found in the metal-working, pneumatic, hydraulic, glass, ceramic, electronic, missile, and other fields where critical cleanliness is required. • **Bendix Corp.,** Pioneer-Central Div., Sonic Energy Products, Hickory Grove Road, Davenport, Iowa.

For more details circle NED-417 F1 on enclosed inquiry slip

Sound warning is advice to be heeded!

Signals, audible or visual, are quicker in action, are universally recognized and initiate *instant response.*

The sound of a siren literally cries

Danger—Emergency!

The startling flash of the Beacon Ray, its companion signal, provokes the same reaction visually.

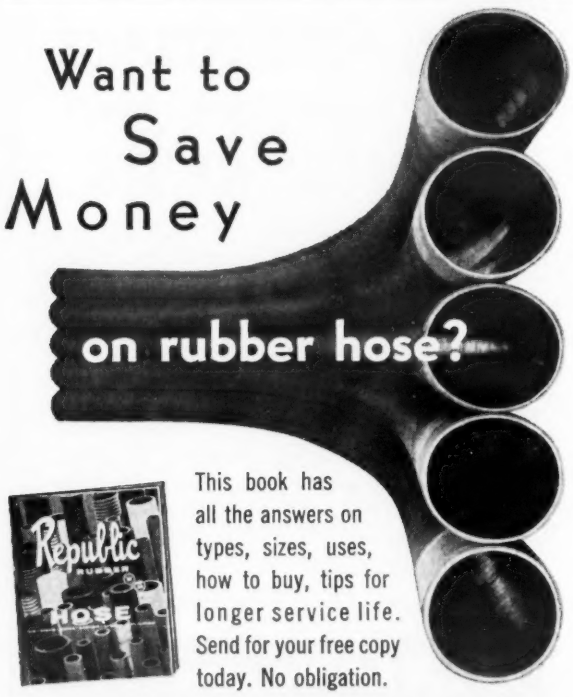
FEDERAL has pioneered in visual and audible warnings, the very *best signals* available.

Write for more information—ask for Catalog #100.

FEDERAL SIGNAL SIGN and Corporation
13611 S. WESTERN AVE., BLUE ISLAND, ILL.

For more details circle NED-418 F1 on enclosed inquiry slip

Want to Save Money



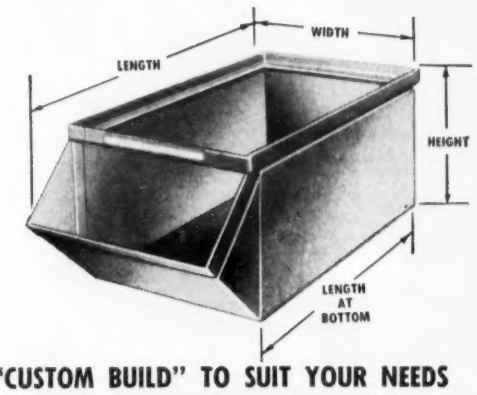
on rubber hose?

This book has all the answers on types, sizes, uses, how to buy, tips for longer service life. Send for your free copy today. No obligation.

REPUBLIC RUBBER DIVISION
LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1, OHIO
INDUSTRIAL RUBBER PRODUCTS

For more details circle NED-413 F1 on enclosed inquiry slip

LOW COST, VERSATILE STACKBINS CUT HANDLING AND STORAGE COSTS



"CUSTOM BUILD" TO SUIT YOUR NEEDS WITH MULTI-PURPOSE STACKBINS

In processing . . .

portable Stackbins carry common parts and supplies to points of usage without time-wasting transferal to other containers.

In storage . . .

Stackbins stack securely to any desired height, with or without Stackracks. Floor space requirements reduced—stock capacity increased.

In assembly . . .

Stackbin flexibility permits adapting assembly station to production requirements.

Available in sizes to suit your requirements

Bin No.	Width	Length	Bottom Length	Height	Weight (lbs.)
00	3½"	6"	4"	3¾"	1¼
0	4½"	8"	6"	4½"	1¾
1	5½"	12"	10"	4½"	3
2	7½"	15½"	12¼"	6"	5½
3	9"	18¾"	14¾"	7½"	9
4	12"	20½"	15¾"	9½"	14
5	15"	24"	18¼"	11"	20½
6	18"	30"	24"	12"	29

COMPARE THE PRODUCT
COMPARE THE PRICE

STACKBINS ARE MADE of heavy gauge steel, all-welded construction with positive stacking rim. Full flow hopper front and smooth interior make contents always visible—always accessible.

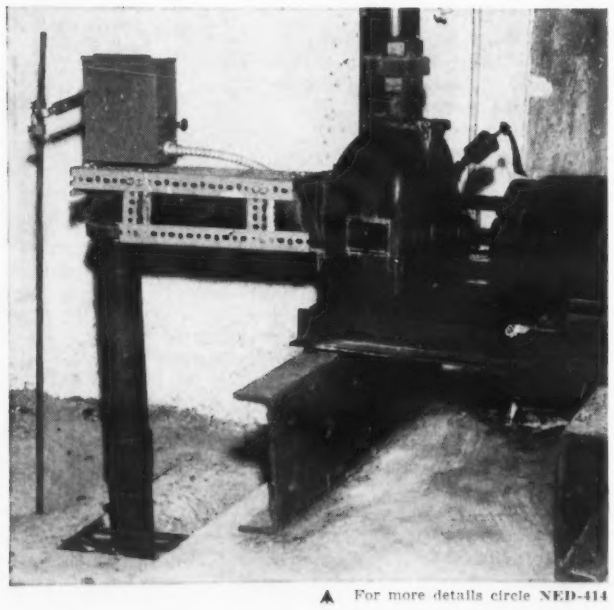
All Stackbin products are sold direct. Write for more information today!

STACKBIN CORP. 1081 Main St., Pawtucket, R. I.
Mfd. & sold exclusively in Canada by: Wickware-Stackbin, Ltd., Perth

STACKBIN SYSTEM "Stacked and Still Accessible"

For more details circle NED-419 F1 on enclosed inquiry slip

DEPENDABLE GORMAN-RUPP PUMP PROTECTS VITAL CONTROL EQUIPMENT



THIS SUMP PUMP IS GOOD INSURANCE! Heavy rains formerly flooded this area in a Philadelphia establishment, causing heavy damage to automatic electrical control equipment essential to the operation of the business.

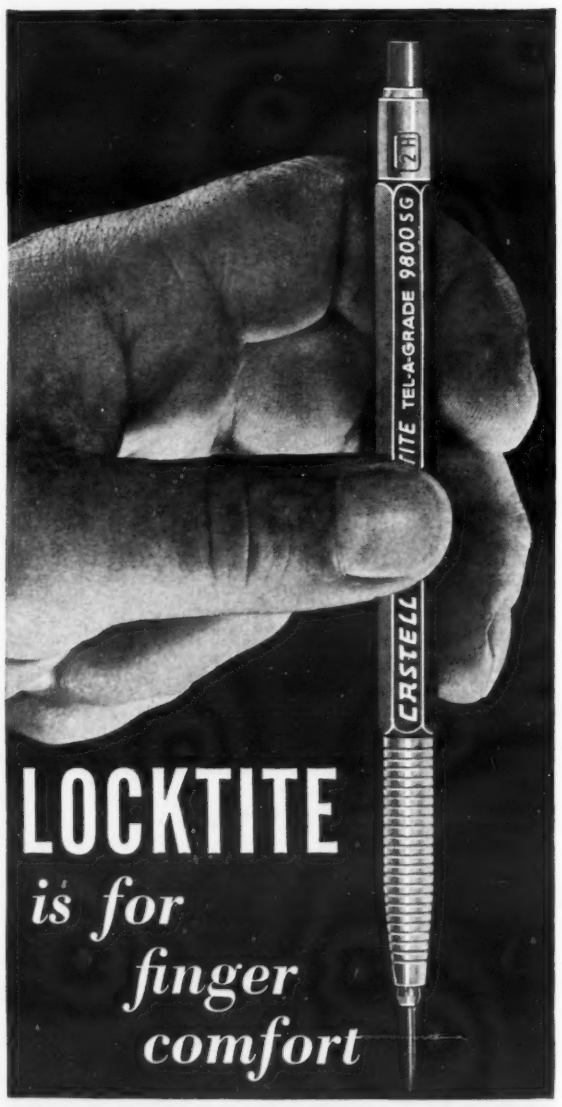
Any drainage water now collects first in the sump from which this Gorman-Rupp pump (Model 83B2-E3) takes its suction. The pump is a self-priming centrifugal, with automatic float control. It is rugged and simple in design, has only one moving part, requires little or no maintenance . . . the most reliable unit you can put on a responsible job.

The Gorman-Rupp line includes pumps used the world over for handling water, slurries, gasoline and oil, etc. Types and sizes to meet your requirements, either as plant equipment or in your product assemblies. *Call our Distributor near you, or write us direct.*

THE GORMAN-RUPP COMPANY
305 Bowman Street Mansfield, Ohio
Gorman-Rupp of Canada Ltd., St. Thomas, Ontario

For more details circle NED-414 F1 on enclosed inquiry slip

▲ For more details circle NED-420 F1 on enclosed inquiry slip ▲



The man at the drawing board gently massaged the kinks out of his fingers ■ Watching hundreds of draftsmen and designers, architects and engineers go through the same motions, inspired us to develop the long-tapered, no-slip, functional grip in #9800SG **Locktite** Tel-A-Grade Lead Holders ■ We designed a gold-plated aluminum barrel with special serrations that give you smooth traction and blessed relief for your tired fingers ■ You'll like **Locktite's** bull dog clutch and unique indicator which reveals the degree in use at a glance ■ Yes, you can buy cheaper lead holders ■ But none can match **Locktite's** precision performance and its soothing comfort ■ Backed by a 2-year no-nonsense guarantee ■ If any part breaks in normal use, **A.W.Faber** will replace the entire holder without cost ■ Join the masters of your profession ■ Buy **Locktite** today ■ **Castell Drawing Leads #9030,** *identical in grade and quality with world-famous Castell drawing pencil* ■ *Usable in all standard holders, but perfect for Locktite* ■ *Draws perfectly on all surfaces, including Cronar and Mylar base films* ■ *7B to 10H, and a kaleidoscope of colors* ■

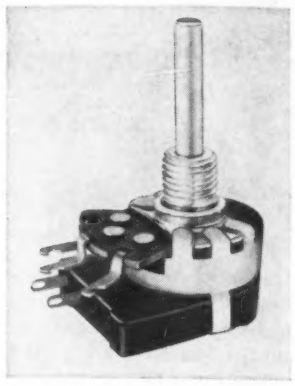
A.W.FABER-CASTELL
Pencil Co., Inc., Newark 3, N. J.

Our Bicentennial year—1761-1961
200 years of uninterrupted manufacturing experience.

CASTELL DRAWING LEAD 9030

▲ For more details circle NED-421 F1 on enclosed inquiry slip ▲

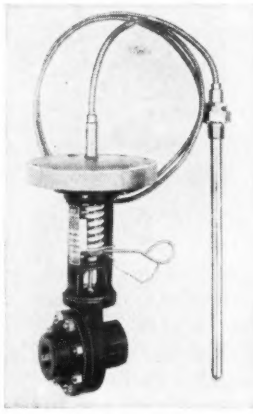
MINIATURE CONTROL-SWITCH
for battery-powered instruments



Series 44/44S control-switch combination is designed for low-powered, battery - operated, transistorized equipment such as portable radios and instruments. The combination has an 0.2-w Series 44 potentiometer with carbon elements rated 500 ohms to 2.5 megohms. The 44S switch is rated 20 v, 1 amp, or 67½ v, 0.25 amp and has positive detent action. It has single-pole single-throw or double-pole single-throw contacts. Terminals are available for solder or printed circuit connections. • **Clarostat Mfg. Co.,** Dover, N. H.

▲ For more details circle NED-422 F1 on enclosed inquiry slip ▲

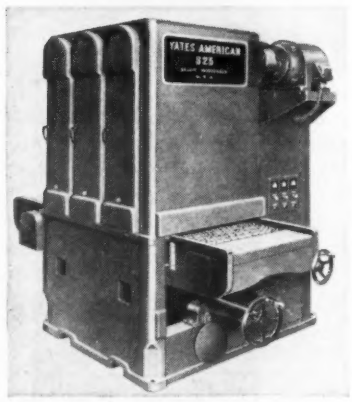
TEMPERATURE REGULATORS
11 ranges cover 10 to 450° F



Body and all wetted parts of self - operated sliding - gate temperature regulators are stainless steel to withstand severe chemical and corrosive conditions. Units are suitable for steam, water, air, oil, and gas line service and have self-cleaning and self-lapping seats. Removable thermal system facilitates range changing in the field. Suitable for 300 psi WSP and up to 500° F, regulators are offered in 11 ranges to control temperatures from 10 to 450° F. Units are also available in cast steel. • **OPW-Jordan Corp.,** 6013 Wiehe Rd., Cincinnati 13, Ohio.

▲ For more details circle NED-423 F1 on enclosed inquiry slip ▲

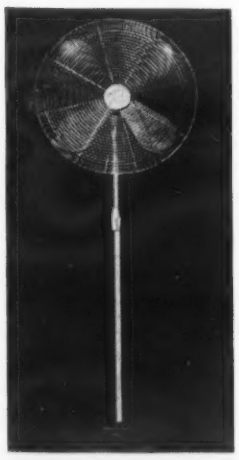
THREE-STAGE BELT SANDER
feed rates to 60 fpm possible



First two belts of Model S-25 three-stage belt sander bring the stock to selected thickness, whereas the third belt removes a minimum of stock for fine finish. Feed rates from 20 to 60 fpm are possible. Belts run over a flexible cushioned shoe which can be varied in hardness according to requirements. Finish compares to that obtained on conventional stroke sanders. Air-operated belt tracking mechanism assures proper oscillating motion and permits changing of belts in a few seconds. Depth of cut is adjustable. Sander handles stock as short as 6 in. and in widths to 24 in. It accommodates thicknesses up to 3 in. through handwheel bed adjustment. • **Yates-American Machine Co.,** 729 Fourth St., Beloit, Wis.

▲ For more details circle NED-424 F1 on enclosed inquiry slip ▲

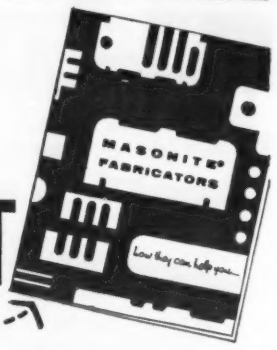
AIR CIRCULATING FANS
24 or 30-in. blades



Pedestal, bench, wall mounted, and ceiling mounted models are available in Airspread air circulating fans, all of which have safety guards as standard equipment. Blades are either 24 or 30-in. UL-listed fans have a totally-enclosed two-speed capacitor type motor, ball bearings, and operate on 115 v, 60 cycles ac. Pedestal model shown has a seamless steel column that adjusts from 5 to 8 ft in height. • **Robbins & Myers, Inc.,** Hunter Div., 2500 Frisco Ave., Memphis 14, Tenn.

▲ For more details circle NED-425 F1 on enclosed inquiry slip ▲

FREE BOOKLET



shows how to save money where you're now spending it

This booklet prescribes new avenues to economy with components fabricated of Masonite® hardboard...drops plenty of cost-cutting hints on how you can work with these versatile panel parts. Also describes the services of Masonite's versatile fabricators—tells how they saw, punch, drill, bend, shape and apply a finish to Masonite panels—all to your exact specifications. Learn about our design and engineering services and our die shop facilities. Write for your free booklet today. Masonite Corporation, Dept. NED6, Box 777, Chicago 90, Ill.

MASONITE *shows the way*

®Masonite Corporation—manufacturer of quality panel products for building and industry.

▲ For more details circle NED-426 F1 on enclosed inquiry slip ▲

DIXON HOSE FITTINGS
for Every Industrial Hose Service
IN SPECIAL METALS

In case you did not know it, nearly all products in the DIXON QUALITY LINE are readily available in Special Metals to meet the widest variety of anti-corrosion, anti-abrasion requirements—

STAINLESS STEEL • ALUMINUM
MONEL METAL • SPECIAL ALLOYS

If you need Couplings, Nipples, Menders, Clamps, Valves and other fittings for hose handling chemicals, oils, gases, sand, grout or other corrosive or abrasive materials, specify Dixon—for dependability.

From Your Hose Supplier or Industrial Distributor

DIXON *Valve & Coupling Co.*
GENERAL OFFICES & FACTORY—PHILADELPHIA 22, PA. BRANCHES—CHICAGO • BIRMINGHAM • LOS ANGELES • HOUSTON • DIXON VALVE & COUPLING CO., LTD., TORONTO
ASSOCIATE COMPANIES—BUCK IRON COMPANY, INC., QUAKERTOWN, PA. • PRECISION DRAWN STEEL COMPANY, CAMDEN, N.J.

▲ For more details circle NED-427 F1 on enclosed inquiry slip ▲

FORMULA FOR AIRLESS SPRAYING

THE H-GUN + HYDRA A IRLESS = F INE F INISHING

Pat. Pend.

THE H GUN is the only airless spray gun proved by production line experience to give finest quality finishing. The only airless spray gun that provides **total atomization!**

- **Perfect feathered spray pattern**
- **Full gun control**
- **No flooding or pigtails**
- **Material savings average 40%**

ORDINARY AIRLESS — H-GUN
Two spray patterns compare the H-GUN and ordinary airless. Each is same material at equal pressures.

HYDRA A IRLESS 30 is a 30-1 ratio, quality-built, airless pump designed specifically for airless spraying. Loafs on conventional work—has plenty of reserve power for the toughest jobs. The remarkable combination of the H-GUN and HydraAirless 30 meets every requirement from heavy maintenance to the

Finest Finishing!

Ask your nearest Spee-Flo distributor for a demonstration or write to

Complete Systems from $725.00

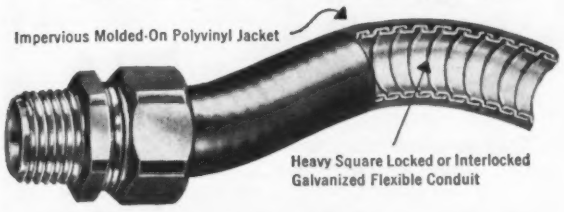
The SPEE-FLO Company
6614 Harrisburg, Houston 11, Texas.

▲ For more details circle NED-428 F1 on enclosed inquiry slip ▲

Moisture just can't penetrate

LIQUATITE®

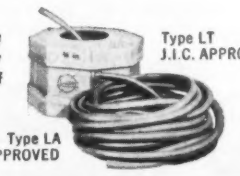
FLEXIBLE LIQUID-TIGHT WIRING CONDUIT



. . . nor can grease, dirt, oils, alcohols or most other corrosive vapors, acids, or other harmful elements. Circuits are *completely* protected.

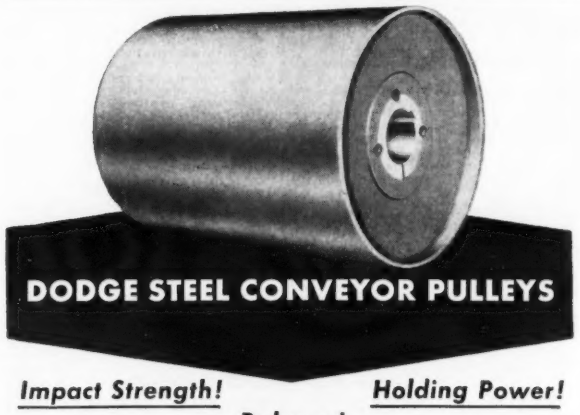
Liquatite can be installed as quickly and easily as Flexible Conduit, yet assures the protection of Rigid Conduit. It follows contours, absorbs motion, vibration and shock indefinitely.

Find out why Liquatite is serving industry everywhere. Write today for free sample, costs and name of Distributor nearest you.



ELECTRI-FLEX COMPANY
P.O. BOX 128H • ROSELLE, ILLINOIS

For more details circle NED-429 F1 on enclosed inquiry slip



DODGE STEEL CONVEYOR PULLEYS

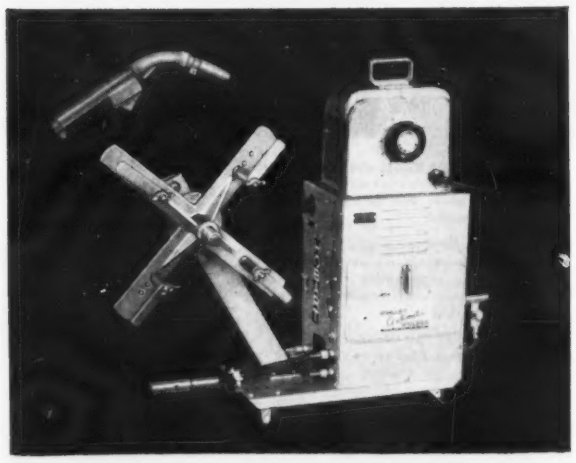
Impact Strength! *Holding Power!* *Balance!*

All-steel, welded drum construction for maximum strength with minimum weight. Diametrically opposed back-up bars permit welds of full rim thickness and equal weight distribution. Balanced design gives vibration-free operation and longer bearing life. Interchangeable Taper-Lock bushings hold like a shrunk-on fit . . . mounting and demounting is simple. Diameters 6" to 96", all widths. Ask your Dodge distributor or write for a bulletin.

Dodge Manufacturing Corporation, 2100 Union St., Mishawaka, Ind.

DODGE
of Mishawaka, Ind.

For more details circle NED-430 F1 on enclosed inquiry slip



WELD WITH THIS CONTINUOUS WIRE FEEDER FOR GREATER PROFITS . . .

The HIG-24 "Migarc" speeds welding operations, avoids down time, stub end loss and clean up time. A consumable electrode welding process using argon, helium or low cost carbon dioxide shielding gases. With special Hobart accessories, you can make spot, plug, space, tack and bead metal arc welds all automatically. For increasing production and reducing costs, investigate Hobart's low cost "Migarc."

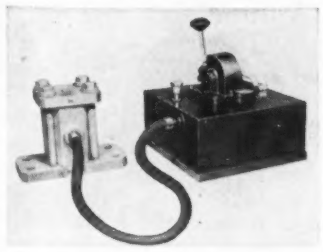
HOBART WELDERS • ELECTRODES

HOBART BROTHERS CO., BOX ND-61, TROY, O.

"Manufacturers of the world's most complete line of arc welding equipment"

For more details circle NED-431 F1 on enclosed inquiry slip

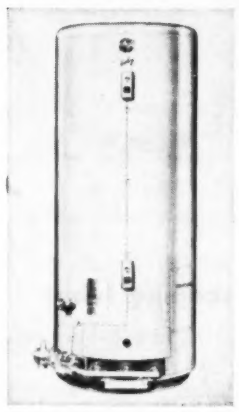
PNEUMATIC VIBRATORS
impact, frequency are controllable



Air passages which cannot plug, operation at low line pressures, and rubber shock absorbers under each bolt head to prevent bolt stretching are features of Vibrajust pneumatic vibrators. Impact and frequency of the 1¼ and 3-in. models are closely controlled and operated by the adapter shown at the right with the larger model in the photograph. At a line pressure of 3 psi the 1¼-in. model operates at 2400 vibrations per minute and the 3-in. model at 980 vpm. At 80 psi the respective outputs are 6200 and 6000 vpm. Weights are 9 and 43 lb. Exhaust ports can be tapped on the 3-in. vibrator for reuse of exhaust air, such as for aerating material in bins. Price of 1¼-in. model is $30.80 and 3-in. model is $110.50. • **Branford Co.**, 130 Glen St., New Britain, Conn.

For more details circle NED-432 F1 on enclosed inquiry slip

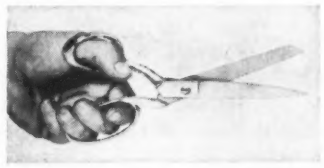
STORAGE-TYPE WATER HEATERS
in 166 and 210-gph models



Commercial and industrial requirements for hot water in large amounts are met by B-197 and B-250 automatic storage tank-type gas water heaters. The B-197 will heat 166 gph at 100° F temperature rise and is rated 197,000 Btu. The B-250 heats 210 gph at 100° F rise and is rated 250,000 Btu. Both are equipped with Permaglas glass-lined 100-gal tanks, newly designed gas burners, and automatic controls with 100 per cent safety shutoff. They can be installed as an automatic storage heater, with an auxiliary storage tank, as a booster, in multiple heater installations, in two-temperature installations, and as a preheater. • **A. O. Smith Corp.**, Permaglas Div., Kankakee, Ill.

For more details circle NED-433 F1 on enclosed inquiry slip

LEFT-HAND SCISSORS
have hand ground steel blades



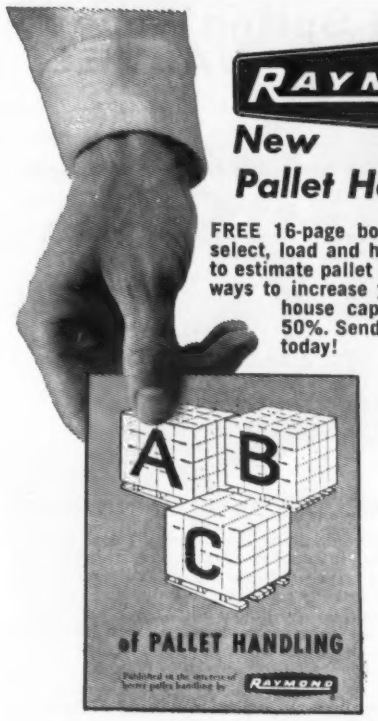
Comfortable contoured handles for left-handed users are a feature of the multipurpose 8-in. bent trimmer, an addition to the Kleencut Lefty scissor line. They are made of unbreakable carbon steel, are nickel plated, and have hand-ground blades. The "southpaw" user has an unobstructed view of the cutting edge. Price is $3.50. Line also includes 4-in. blunt and 5-in. sharp point Lefty scissors. • **Acme Shear Co.**, 1000 Hicks St., Bridgeport 1, Conn.

For more details circle NED-434 F1 on enclosed inquiry slip

MAGNETIC TIMERS
have 0.1 to 38-sec time ranges

Output contacts are the only moving parts in these magnetic timers which feature a saturable circuit. Repeat accuracy is within ±1 per cent of the maximum time range with line voltage variation of ±15 per cent. Time ranges are from 0.1 to 38 sec. Two modes of operation are offered: Type D units have a time delay after the opening of the initiating switch; Type E timers provide a time delay after closure of the initiating switch. Output contacts consist of two double-pole double-throw, two normally-open and two normally-closed contacts rated at 5 amp, 115 v ac and 5 amp, 28 v dc. Standard models operate with 115-v 60-cycle power supplies. Timer adjustment dial may be removed for convenient remote location. NEMA Type 1, 4, 7, 9, and 12 enclosures are available. • **Gemco Electric Co.**, 25685 W. Eight Mile Rd., Detroit 40, Mich.

For more details circle NED-435 F1 on enclosed inquiry slip



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New Pallet Handbook

FREE 16-page booklet tells how to select, load and handle pallets; how to estimate pallet requirements; plus ways to increase your present warehouse capacity as much as 50%. Send for your free copy today!

The RAYMOND CORPORATION
4124 Madison St., Greene, New York

For more details circle NED-436 F1 on enclosed inquiry slip

RAYMOND®

Lightweight Hand Pallet Truck

Frees power trucks for stacking and continuous operation. Invaluable for intermittent handling on docks, trucks, elevators, etc. Easy rolling, operates in tight spots. Completely hydraulic. Built for years of use and abuse.

Capacity: 2,000 and 3,000 lbs. Send for bulletin.

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For more details circle NED-437 F1 on enclosed inquiry slip

RAYMOND®

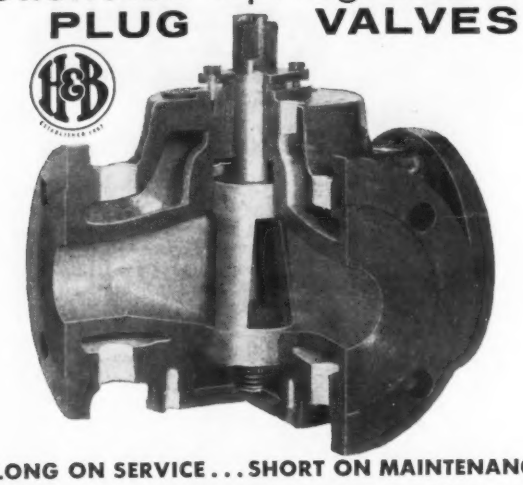
Walkie Stacker

Low-cost stacker tiers 2,000 lb. loads more than 10 feet high from aisles as narrow as 5 feet. Only 25½" longer than load. 24 volt power for faster lift and travel. Offers three speeds forward or reverse. Send for bulletin.

The RAYMOND CORPORATION
4126 Madison St., Greene, New York

For more details circle NED-438 F1 on enclosed inquiry slip

Jacketed Spring Loaded PLUG VALVES



LONG ON SERVICE . . . SHORT ON MAINTENANCE

H & B's new fully jacketed spring loaded plug valves feature an inverted tapered plug inserted and lapped into the housing from the bottom of the valve—then spring loaded. The spring wedges the plug to a perfectly tight seal, eliminating troublesome leaks. Easy to operate—no big handwheel . . . no freeze . . . no "breaking loose" necessary. Easy to clean. Made in two port or multi port design, with any special stop arrangement desired.

Available in 2-way or straight, 3-way or angle, also air cylinder operated—all sizes and types. Bulletin J-57 sent on request.

HETHERINGTON & BERNER INC.
725 KENTUCKY AVE. INDIANAPOLIS 7, IND.
A Wholly Owned Subsidiary of American Hoist & Derrick Company

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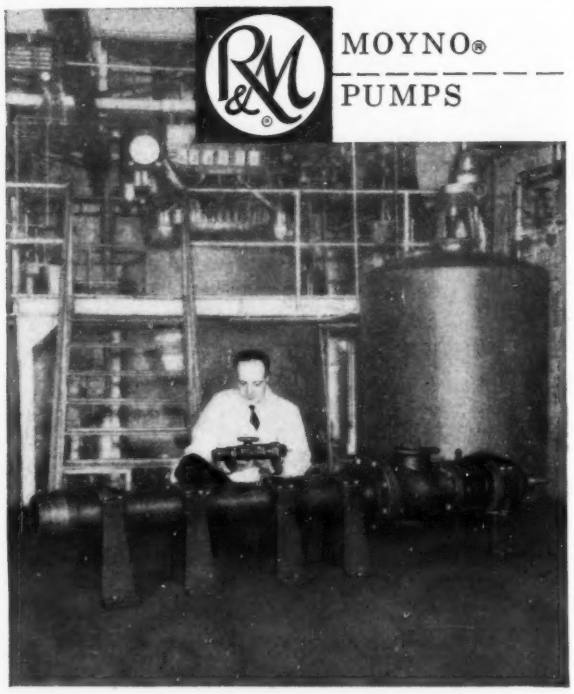


MOYNO® PUMPS

capacities: from 1/100 to 500 gpm
pressures: up to 1000 psi

MOYNO pumps are available in nine sizes with capacities ranging from minimum metering flow to 500 gpm and pressures from zero to 1000 psi. Positive displacement delivers uniform discharge without pulsation, agitation or turbulence. Solutions ranging from thin watery slurry to extremely viscous paste, corrosives, abrasives and even solids in suspension are economically handled without excessive pump wear.

MOYNO's unique *"progressing cavity"* principle with only one moving part and special resistant internal parts slashes pump maintenance costs on problem materials that often ruin other pumps. Almost any substance that can be forced through a pipe can be pumped by a MOYNO.

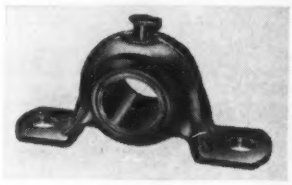
To learn how a MOYNO can cut your pumping costs, write today for Bulletin 30-NE

ROBBINS & MYERS, INC.
motors, household fans, Propellair industrial fans, hoists, Moyno industrial pumps
SPRINGFIELD, OHIO · BRANTFORD, ONTARIO

Cutaway view of Moyno Pump

▲ For more details circle NED-440 F1 on enclosed inquiry slip ▲

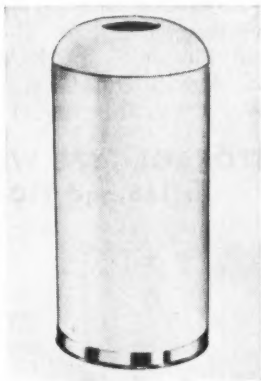
STRAP-TYPE PILLOW BLOCK
in ½ through 1-in. shaft sizes



Either sintered bronze or graphited bushings are available in Series 1330-1338 all-purpose strap-type pillow blocks. Series is offered in ½ through 1-in. shaft sizes for oil or grease lubrication, or supplied permanently lubricated with Plastic E. Mounting is facilitated by a simple detent which holds the 16-gage, cadmium-plated cap and base together until the bolts are installed. • **Randall Graphite Bearings, Inc.,** Box 839, Lima, Ohio.

▲ For more details circle NED-441 F1 on enclosed inquiry slip ▲

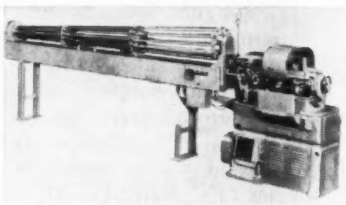
OPEN-TOP RECEPTACLE
has galvanized steel liner



Lightweight, 32-in. high outer shell of the open-top No. R-32 receptacle is easily lifted to empty the 15½-gallon capacity galvanized steel liner. The 5½-in. center hole in the top has a smooth folded-under metal edge. Bonderized steel outer shell has a 15-in. diameter and a baked enamel finish. Base is stainless steel. The 18-lb receptacle is available in white (standard) and colors. • **United Metal Receptacle Corp.,** 27-29 Ocean Ave., Jersey City 5, N. J.

▲ For more details circle NED-442 F1 on enclosed inquiry slip ▲

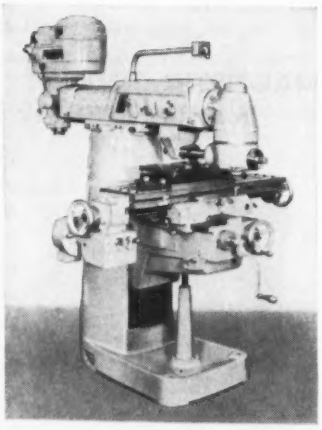
BAR STOCK FEEDER
magazine has 12 telescoping tubes



Mill length bars are loaded into the Uni-Mac Bar Hopper bar stock feeder from the working aisle, over the machine with which it is used. It attaches to the bar feed end of a single spindle screw machine, centerless grinder, thread roller, or other equipment processing long bar stock. Feeder consists of 12 telescoping tubes, slightly tapered in arrangement. A new bar is automatically inserted from the magazine in less than 1 sec. Compensation for variations in bar length of as much as 9 in. is possible. Two sizes of the 13-ft long, 16-in. wide feeder accommodate ½ and ¾-in. diameter hexagon, square, round, and other shaped bars. • **Unit Machinery Co.,** 1500 11th Ave., Rockford, Ill.

▲ For more details circle NED-443 F1 on enclosed inquiry slip ▲

MILLING MACHINE
offered with variety of attachments, 42 x 10-in. table, several options



Spindle head of the Style H-V Toolmaster milling machine is designed for horizontal milling with arbor mounted cutters, and for vertical and angular milling with the spindle head swiveled and the arbor support removed. To save setup time, it can be equipped with any of three Toolmaster vertical heads on the opposite end of the overarm. Changes are made by loosening four bolts and swiveling the overarm and turret base as a unit.

The hand feed machine has large micrometer dials for handwheels, oil-shot lubrication, and built-in electric controls and pushbuttons. Extra equipment includes power table and cross feeds, index head, shaping attachment, and precision measuring equipment. Eight spindle speeds range from 75 to 1130 rpm. Longitudinal table traverse is 22 in., cross travel is 10 in., and vertical knee movement is 17 in. Table size is 42 x 10 in. • **Cincinnati Milling Machine Co.,** Marburg & South Streets, Cincinnati 9, Ohio.

▲ For more details circle NED-444 F1 on enclosed inquiry slip ▲

TRANSPARENT JOB TICKET ENVELOPE

SENSATIONAL LOW PRICE! 15¢ EACH MINIMUM 100 FOB FACTORY

Specify with or without Grommet Hole

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RICHMOND 7-5329

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Electric, gasoline and propane models also available

The only "automatic" that can be used for scrubbing and wet pickup—or polishing and dry pickup, now available in a noiseless, fumeless, cordless, battery model. Uses four low-cost popular brand batteries. Battery pack lifts out easily. Optional second battery pack makes possible continuous operation while first pack recharges. No dismantling, no costly delay. Write today for full information. Lease and finance plans available.

ADVANCE

ADVANCE FLOOR MACHINE CO.
120 Industrial Center
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1 Better Value OHIO gears are a better value because you get top quality gears at lower prices. Ask for a quotation and see for yourself.

2 Top Quality OHIO gears have gained universal acceptance among major users, through a combination of experienced engineering, fine materials and quality workmanship.

3 Availability 52 OHIO distributors, located in major cities across the nation, can make fast delivery on all popular styles and sizes . . . from local stock.

4 Wide Selection All sizes of OHIO gears are available in both 14½ and 20 degree pressure angle, and includes: spur, 3 to 64 pitch; worm, 3 to 32 pitch; bevel, 3 to 16 pitch; mitre, 4 to 32 pitch; and helical 6 to 24 pitch.

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Manufacturers of gears and speed reducers-both stock and special

OHIO GEAR Co.
1405 E. 179th ST. • CLEVELAND 10, OHIO

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Best answer to ALL your hydraulic hose and fitting problems is in this

SURGEPRUF CATALOG!

It describes the full line of top quality Alemite Surgepruf "Shur-Lock" hydraulic reusable couplings, hose and hose assemblies available for every high, medium-high and low pressure application. Surgepruf Non-Skive hose and Shur-Lock reusable couplings are easy to install, easy to replace. They require no special tools—provide fastest, easiest field assembly.

Dependable Surgepruf products serve every industry. Learn how they can save you time, money, man-hours.

Send for your FREE SURGEPRUF CATALOG #40-25 now!

Symbol of SW Excellence — ALEMITE DIVISION STEWART-WARNER CORPORATION

Dept. AK-61, 1850 Diversey Pkwy., Chicago 14, Ill.

For more details circle NED-448 F1 on enclosed inquiry slip

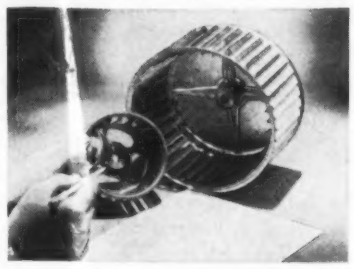
One DETECTO Speed Scale does the work of *two* operators

Streamline your plant operation with this trouble-free, simplified, highly sensitive scale. The slightest discrepancy of over-weight or under-weight is instantly revealed by DETECTO'S over-under indicator. Write for information on full line of industrial weighing equipment from 1/100 oz. to 100 ton:

Detecto Scales, Inc. Dept. D-1, 540 Park Ave., Brooklyn 5, N.Y.

For more details circle NED-449 F1 on enclosed inquiry slip

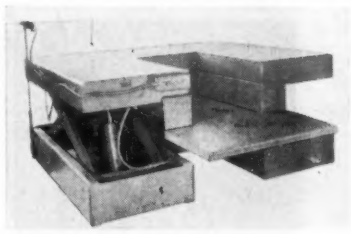
SMALL BLOWER WHEELS
single and double inlet types



Diameters of 4¾, 6, 7 7/16, and 8½ in. and 12 blade lengths from 2 to 4¾ in. are available in this line of small blower wheels for various types of appliances. Made of aluminum, cold rolled steel, or Zinc Grip, they have solid, pied out, or coned backs and standard, keyway, Guardian, and Lovejoy hubs. Both single and double inlet types are made. Special lengths and keyway positions can be ordered. • **Lau Blower Co.**, 2027 Home Ave., Dayton 7, Ohio.

For more details circle NED-451 F1 on enclosed inquiry slip

MOBILE LIFT TABLE
mounts on track or runs on floor



Automan control arm of this lift table keeps the table level at all times. The table raises automatically after removal of each sheet for feeding to various operations. The pushbutton operated unit is mounted on a track, or it can run on the floor, moving forward and back and up and down as required. One motor furnishes power for all functions. The 84 x 96-in. deck has a lowered height of 22 in., raise height of 40 in., and a capacity of 30,000 lb. • **Lange Lift Co.**, 4225 N. 124th St., Milwaukee 22, Wis.

For more details circle NED-452 F1 on enclosed inquiry slip

SOIL DRILL
attaches to, operated by water hose

Jet drilling nozzle of the Edco Water Drill enables the tool to drill itself into soil at a rate up to 4 ft per minute. No hand pressure is required, even in

clay. Attached to a garden hose, it makes a 4-ft deep, 1-in. diameter hole for fence posts, deep watering and fertilizing tree roots, or applying fertilizer to shrubs. Drill is made of heavy aluminum tubing and sells for $2.95. • **Eynon-Dakin Co.**, 9900 Freeland Ave., Detroit 27, Mich.

For more details circle NED-453 F1 on enclosed inquiry slip

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Here's the WORK-SAVING SLANT to replace older, costlier methods

EXCEPTIONAL VERSATILITY and ADAPTABILITY

Looking for cost savings? Simpler, faster production? Improved product quality? Brightboy's abrasive and rubber, functioning simultaneously, achieve a unique working action that constitutes an unusually wide, refreshing concept of abrasive applications . . .

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- Machine Speeds
- Job-Matched Stock Wheels, Sticks, Rods, Blocks & Points
- Wheel Sizes—Complete Range

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BULLETIN 573 — Dual-Clone dust separators — noted for their low resistance and high cleaning efficiency. Easy to install, no maintenance, no moving parts.
BULLETIN 576 — "HV" heavy duty dust separator. Rugged construction and lower initial cost than many light gauge galvanized type cyclones.
BULLETIN F-75 — Reverse Jet Dust Filter Facts. Complete with specifications, typical equipment layouts, capacity and performance tables for DAY type "AC" filter.
BULLETIN N-578 — Gives complete information about Style "A" rotary valves. Construction features, specifications, dimensions and applications.
"SCHLITZ DEFEATS DUST" — FOOD ENGINEERING magazine reprint describes all out dust control for 3½ million bushel Schlitz grain elevator. Request Bulletin "Schlitz Defeats Dust."
"EFFICIENT DUST SNATCHERS" — Bulletin describes DAY's part in providing maximum safety and good housekeeping for starch packing building of large food processor.
BULLETIN 510 — DAY Unit Dust Collectors. Complete, low cost unit designed for plants or applications where central dust control systems are not practical.
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The **DAY** *Company*

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You can save time when planning and save money when buying if you'll send for these DAY dust control bulletins. Each contains valuable information about dust control equipment and systems. Here's general information plus useful technical data and specifications. Ask for any bulletin which interests you or write for them all — they're free. Use this magazine's reader service card or write direct toDAY.

EQUIPMENT ONLY OR A COMPLETE SYSTEM

For more details circle NED-450 F1 on enclosed inquiry slip

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for pay-out or take-up of anything on reels

No pulling heavy reels . . . no pushing . . . JUST LOAD and away you go!

- Easily portable
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- Heavy steel frame
- Slanted front
- Ball-bearing adjustable rollers
- Positive roller lock for unloading

STYLE B — 4,000 lbs. cap. for 1 reel up to 48" wide; or for 2 reels up to 24" wide each. Weight 110#. PRICE $84.50 f.o.b. Cincinnati

All are drilled for optional auxiliary ball-bearing side rollers, $5.00 per set extra.

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- Special sizes on request.

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ROLLED NYLON WASHERS

make a positive seal up to 250°F and can be used with any standard fastener including tapping screws

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NYLTITE CORPORATION OF AMERICA

280 BADGER AVENUE • NEWARK 8, NEW JERSEY

For more details circle NED-457 F1 on enclosed inquiry slip

PRAB PRECISION ENGINEERED Specialized CONVEYING EQUIPMENT

MAGNAVATOR

TUBE-VEYOR

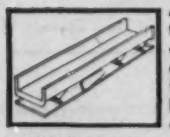
Automatically- ELEVATE YOUR SMALL PARTS *Magnetically* WITH THE

MAGNAVATOR

PARTS FEEDING CONVEYOR

BUCKET ELEVATOR

MAGNAVATOR eliminates manual labor usually required for filling hoppers and transferring between machines . . . conserves valuable floor space . . . automatically handles up to 8000 lbs. per hour . . . serves two or more machines. The self-feeding MAGNAVATOR efficiently handles small parts up to 8 lbs. each, such as castings, bolts, nuts, forgings, rivets, stampings, etc. The automatic MAGNAVATOR can greatly reduce your materials handling costs.



VIBRATING CONVEYOR

Advantages: Self-feeding · maintains material level automatically · pleasing appearance, portable • vertical handling saves floor space • hot parts can be handled · no jamming · each unit engineered to YOUR specific requirements.

STEEL BELT CONVEYOR

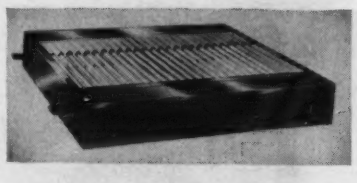
SEND FOR CATALOG #600
Representatives in Principal Cities

PRAB CONVEYORS, INC. PRAB Products Mfd. under Pats.

30119 GROESBECK HWY ROSEVILLE (Detroit) MICH

For more details circle NED-458 F1 on enclosed inquiry slip

INFRARED FURNACES & OVENS develop up to 3000° F



Use of fluid cooling makes possible very compact high intensity infrared quartz lamp ovens and furnaces with extremely high heat transfer rates. Equipment provides precision control without any contamination during processing. Almost any shape of equipment may be fabricated to meet requirements for temperatures up to 3000° F. Applications include high speed finishing, annealing, brazing, and porcelain enameling of metals, curing and drying high speed paper and textile webs, high speed ink drying, and various nuclear and electronic uses. • **Fostoria Corp.**, Box 100, Fostoria, Ohio.

For more details circle NED-459 F1 on enclosed inquiry slip

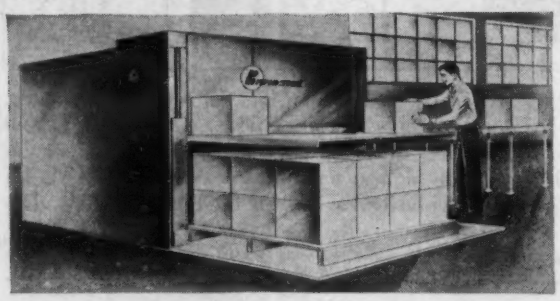
SAFETY LADDER base rolls under machines, desks

Cantilever construction of the Model K safety ladder provides an overhang without sacrifice of support, enabling the base to roll under desks, machinery, and office equipment to get close to work. Ladder of welded steel has a durable, smudgeproof synthetic aluminum finish. When the user's weight is applied to the first step, the Ballylock floor lock retracts the front casters and places rubber-tipped anchor legs on the floor. Toe pressure applied to the underside of the step releases the lock. Ladder is available in 8 to 12-step sizes. • **Ballymore Co.**, Lincoln & Garfield Avenues, West Chester, Pa.

For more details circle NED-460 F1 on enclosed inquiry slip

PALLET LOADER-STACKER stacks containers automatically in stable, self-locking pattern

Perfect pallet loads are easily formed by one operator when using this Series 1000 Rapidstak Pallet Loader. Available in nine sizes for 1000 to 3000-lb loads on up

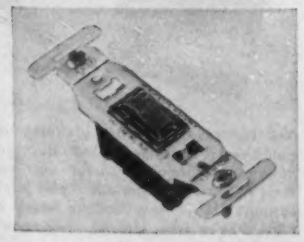


to 48 x 50-in. pallet sizes and stacking heights to 46 in., machine is quickly adapted to any desired stacking pattern.

Heavy cases are transferred by the operator from the conveyor line to the loader platform, where the cases are arranged in any pattern. Pushing a button transfers the tier of cases at conveyor height to the pallet. The pallet is lowered one tier, and the platform then returns ready for the next layer. This cycle is repeated until the capacity of the loader is reached, and the pallet is at floor level ready to be hauled away. • **Hansford Mfg. Corp.**, 3111 Winton Rd. S., Rochester 23, N. Y.

For more details circle NED-461 F1 on enclosed inquiry slip

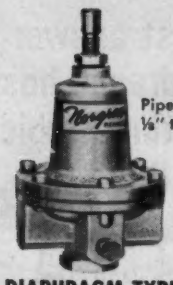
QUIET SWITCH equipped with pressure terminals



Four-way Touch-A-Matic electric switch is quiet operating and affords light-touch instant action. Its design incorporates enclosed E-Z Wire rear pressure terminals. Touch-A-Matic line now includes single-pole and three-way, flush and interchange types of switches, rated 15 and 20 amp, 120-277 v ac. • **Eagle Electric Mfg. Co.**, 23-10 Bridge Plaza S., Long Island City 1, N. Y.

For more details circle NED-462 F1 on enclosed inquiry slip

for BETTER CONTROL of FLUIDS... Norgren CONTROL VALVES



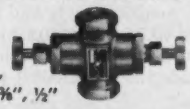
Pipe sizes, ⅛" thru 1"

DIAPHRAGM TYPE RELIEF VALVES

POP SAFETY VALVES
Pipe sizes, ⅛", ¼", ⅜", ½"

LOW FLOW RELIEF VALVES
Pipe sizes, ⅛", ¼"

Pipe sizes, ¼", ⅜", ½"



FLOW CONTROL VALVES
Two-Way—Single-Way

5 Types

Pipe sizes, ⅛", ¼"

NEEDLE VALVES

C. A. NORGREN CO. WRITE FOR DESCRIPTIVE LITERATURE

3405 SO. ELATI STREET • ENGLEWOOD, COLORADO

For more details circle NED-463 F1 on enclosed inquiry slip

A FISTFULL OF DEPENDABLE POWER...

MERKLE-KORFF IS HEADQUARTERS FOR *fhp* GEARED MOTORS

PERFORMANCE BALANCED

SINCE 1911

A 50-YEAR BACKGROUND assures you of "Performance Balanced" power units. Power on which you can rely because it is "balanced" to *your* requirements.

Your primary interest in gear motors is "Performance" at reasonable cost. Merkle-Korff "Performance Balanced" gear motors give you just that! Every facet of planning, designing and building your gear motors is *balanced* to provide dependable performance and long life.

Chief Merkle-Korff characteristics are small size, high starting torques, less weight, long life . . . and dependability. Thousands of combinations of motor types, speeds, torques, brakes, fans, motor covers, mounting facilities, are at our command when we design for your applications. This is why Merkle-Korff units are considered the best by original equipment manufacturers.

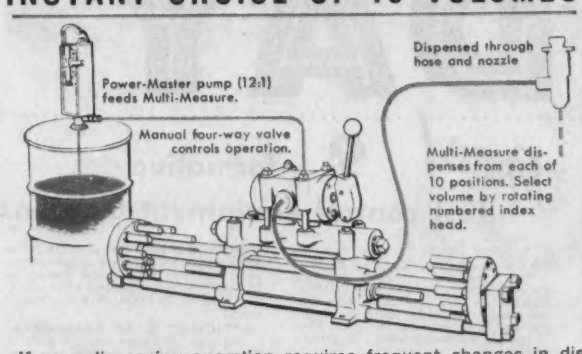
Our applications engineers are at your service; there is no obligation. Write us or telephone today.

MERKLE—KORFF MK GEARED MOTORS

MERKLE-KORFF GEAR CO.
220 North Morgan Street • Chicago 7, Illinois
Telephone: MO nroe 6-1900

For more details circle NED-464 F1 on enclosed inquiry slip

NEW MEASURING VALVE OFFERS INSTANT CHOICE OF 10 VOLUMES



If your dispensing operation requires frequent changes in dispensing volume, you will save time and speed production by using Lincoln's new Multi-Measure Model 83232. Ten adjustable stop pins let you preset the amount each position will discharge with a range of settings from .5 to 25 ozs. The numbered index heads rotate for rapid switching from one volume to another. The system is ideal for filling different mold cavities with the exact amount of material each requires, filling gear cases, sealed bearings and similar applications.

Lincoln offers a complete selection of measuring valves for precision metering and dispensing of fluid and semi-fluid materials. Whatever your requirements for dispensing materials, consult Lincoln first.

LINCOLN ENGINEERING COMPANY
4010 GOODFELLOW BLVD ST. LOUIS 20, MO
DIVISION OF THE McNEIL MACHINE & ENGINEERING CO.

For more details circle NED-465 F1 on enclosed inquiry slip

DON'T WORRY!

USE...

NUMBER

685

SAFETY SOLVENT

COLD SOLVENT DEGREASER

- OPEN CUP FLASH.....195°F
- FIRE POINT.....200°F
- M.A.C. .....200-500 PPM
- K.B. RATING.....62

NON-CORROSIVE • NON-STAINING

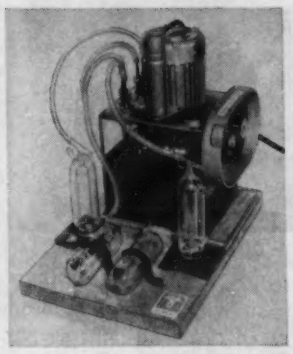
For use on all metals, plastic, glass, ceramics. Will not effect insulation, resins, rubber, etc.

PECK'S PRODUCTS CO.

610 E. CLARENCE • ST. LOUIS 15, MISSOURI

For more details circle NED-466 F1 on enclosed inquiry slip

GAS MIXING PUMP
accurately combines several gases



Various ratios of accurately measured gases for calibrating gas analyzing instruments over their entire range are prepared by this gas mixing pump. Accurate within ±0.05 per cent, it permits two or more gases to be combined in one mixture in concentrations from 1 to 99 per cent. Pump consists of two bronze single-acting piston systems, actuated by a common self-starting synchronous motor and gear unit. Twelve mixing ratios are obtained by interchanging gears in pairs. Supply voltage is 110 v, 60 cycles ac. • **Instrumentation Associates Inc.**, 17 W. 60th St., New York 23, N. Y.

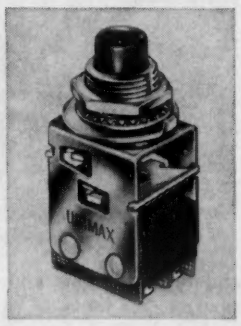
For more details circle NED-468 F1 on enclosed inquiry slip

SAW BLADES
packaged in three diameters

Savings of almost 25 per cent over single blade prices are realized by purchasing diamond arbor combination saw blades in the Economy Pack. Each contains ten blades. Packs are available in 6½, 7¼, and 8¼-in. sizes and are priced at $23.50, $23.50, and $26.85, respectively. • **Skil Corp.**, 5033 Elston Ave., Chicago 30, Ill.

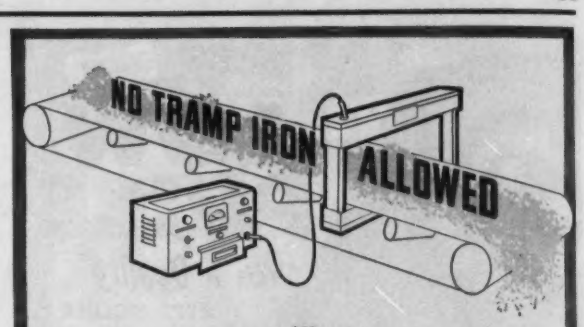
For more details circle NED-469 F1 on enclosed inquiry slip

PUSHBUTTON SWITCH
snap drive gives feel of operation



Prestressed coiled spring toggle mechanism of the actuator in the Type 2SJ6-1D Unimax snap drive pushbutton switch provides positive operation, regardless of the rate at which operating force is applied. The user can "feel" exactly when the switch operates in either direction. Switch consists of two Type USM5-D subminiature switches in combination with the actuator and single-hole mounting bracket. It gives momentary-contact double-pole double-throw circuit control at loads of 5 amp, 125-250 v ac. It has a black, red, or green plastic button. • **Maxson Electronics Corp.**, Unimax Switch Div., Ives Road, Wallingford, Conn.

For more details circle NED-470 F1 on enclosed inquiry slip



with

DINGS DETECTORS

on the job

Why take a chance on tramp iron damage to expensive equipment? With the Dings Universal Series Detector policing your conveyor belts, spouts, troughs or slides, no iron or steel can pass through the search coil undetected. The Universal Series Detector is easily installed on existing conveyors and requires practically no attention for constant, automatic protection of processing equipment. It can automatically stop conveying or processing equipment when applied even on deep burdens traveling at high speed. With a wide range of sizes to meet your requirements, the Dings Universal Series Detector gives you the lowest cost tramp iron protection ever offered!

MD-160

Dings

Write for Bulletin 1901 for complete details

DINGS ELECTRONICS, INC.

Subsidiary of Dings Magnetic Separator Co.

4758 W. Electric Avenue

Milwaukee 46, Wisconsin

For more details circle NED-472 F1 on enclosed inquiry slip

KODAK ANNOUNCES

Kodak

3 important new Kodagraph Films

Superb, high-contrast emulsions on new ESTAR BASE assure you of crisp, sharp, long-lasting, dimensionally stable reproductions of your drawings, maps, other documents. These three new ESTAR BASE films are also highly translucent, have an excellent matte surface on both sides . . . won't turn yellow or become brittle, and are moisture resistant. Available in cut sheets, and in rolls up to 52" wide.

1. **Kodagraph Autopositive Film, ESTAR BASE.** Ideal for general reproduction work—gives you same-size positive intermediates *directly* without negative step.
2. **Kodagraph Contact Film, ESTAR BASE.** Bound to be a darkroom favorite in making same-size reproductions of old or weak line originals from film or low-cost paper negatives.
3. **Kodagraph Projection Film, ESTAR BASE.** Gives you sharp, clean results when enlarging microfilm negatives, or making reductions from film negatives.

Call local Kodagraph dealer for free folder, or write to Eastman Kodak Company, Graphic Reproduction Division, Rochester 4, N. Y.

NEW! Kodagraph

REPRODUCTION FILMS

For more details circle NED-467 F1 on enclosed inquiry slip

for standard and special screws use

Mac-it

...your dependable connection!

Mac-it Engineering Service will give you practical and professional assistance in developing many types of standard and special threaded fasteners. Contact your Mac-it distributor or write, wire or phone the plant for details.

MAC-IT PARTS COMPANY

Dept. 24, Lancaster, Penna.

For more details circle NED-473 F1 on enclosed inquiry slip

Either way . . . you'll like it at only $35.95 list. The Model "Y" Dial Indicating Thermometer. Available in four temperature ranges. From minus 40° to 140° F; 0° to 160° F; 30° to 240° F; or 200° to a 450° F. This vapor pressure actuated thermometer is very versatile. Use it anywhere! Mounting problems? Not a one! It has a universal mounting bracket. Tilt it 60° forward. Or 90° to either side. Any way you look at it . . . you'll get an easy-to-read eye-full. Its dial is large . . . with raised graduations to reduce parallax reading error. Each is individually calibrated for maximum accuracy. Its six foot capillary is flexible for remote reading. The chromium-plated, hard drawn brass case is weatherproof. The inner movement is protected for life against moisture and dust. A trouble-free performer that you can bet on . . . for years! For further information about the precision Model "Y" and the complete line of Autolite instruments and accessories just drop us a line. Write today to . . .

THE ELECTRIC AUTOLITE CO.

. . . INDUSTRIAL INSTRUMENT DIVISION • PORT HURON, MICHIGAN . . .

For more details circle NED-471 F1 on enclosed inquiry slip

NEW LOW PRICE

FOR A *Quality* TYPE HOLDER

Here's economy with no sacrifice of durability for heavy-duty, straight-line marking. Made of famous Mecco Safety Steel to prevent mushrooming and spalling.

Write for M • E • Conomy Bulletin No. 681

Mecco SAFETY — A PRODUCT OF THE MARKING DEVICE INDUSTRY

M·E·CONOMY TYPE HOLDER

M. E. CUNNINGHAM CO.

1055 CHATEAU STREET, PITTSBURGH 33, PA.

▲ For more details circle NED-474 F1 on enclosed inquiry slip ▲

NEW "CUSTOM" MULTI-USE PUMP

—handles FOUR different fluids or gases at one time!

NO CLEAN-UP REQUIRED

—to change materials or color as pump parts do not contact the fluids or gases

Ideal for plants pumping glue, inks, acids or other liquids up to 30 gallons per hour, and in laboratories where controlled quantities must be pumped. Pumps operate quietly; seal off when stopped; flow rate of each station can be controlled separately. Pumps will also handle gases at same volume rate as liquids. Explosion-safe, fully enclosed motor; air motor or shaft drive available. Pump features lightweight, aluminum construction and is completely portable.

Call or write for illustrated bulletin and prices. Mention drive desired, length of tubing required, viscosity of fluids or type of gases handled.

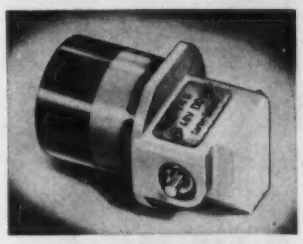
CUSTOM MACHINE COMPANY

119 HIGHLAND PARKWAY, ROSELLE, NEW JERSEY

Telephone CHestnut 1-2980

▲ For more details circle NED-475 F1 on enclosed inquiry slip ▲

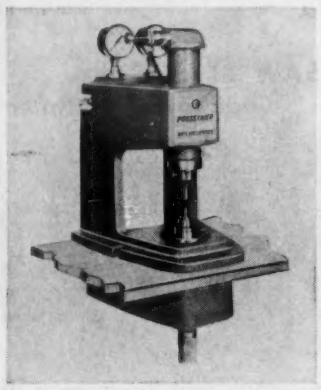
MINIATURE GEARMOTOR in 6 to 48-v dc inputs



Use of an additional armature bearing in Model PM-148 miniature gearmotor results in better performance and longer life over former Model CO843 which it replaces. The permanent magnet type unit is offered for inputs of 6, 12, 24, 28, 32, and 48 v dc. Double gear reduction provides output shaft speeds of 10 to 100 rpm, with maximum torque of 50 oz-in. Unit measures 2¾ x 2 in. and weighs 9 oz. • **Carter Motor Co.**, 2711 W. George St., Chicago 18, Ill.

▲ For more details circle NED-477 F1 on enclosed inquiry slip ▲

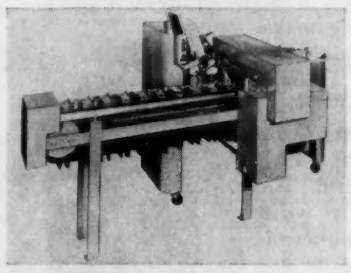
ASSEMBLY TOOL PRESS is high speed, 1-ton machine



Forces from the lightest tap to pressing and staking pressures of 1 ton are instantly selected on this Model OlOB - FA Presstaker. This high speed, automatic assembly tool can be adapted to a wide variety of assembly and production work with simple tooling. Lower part of machine fits into work bench to assure optimum working height. • **Cramer Controls Corp.**, Machine Tool Div., Box 281, Centerbrook, Conn.

▲ For more details circle NED-478 F1 on enclosed inquiry slip ▲

AUTOMATIC CARTONER completes 72 packages per minute



Packaging of tubes, bottles, parts, and small boxes is handled at rates up to 72 completed packages per minute by this pocket intake, automatic Automax cartoner. Operated by one man, it feeds and forms cartons and places them in carton conveyor pockets. It tucks in the flaps after the item is inserted, and then discharges the finished package. It will imprint the carton top end panel to meet FDA requirements, and it can also be equipped with a skip-carton mechanism to prevent feeding of carton if the pocket is empty. • **Crompton & Knowles Packaging Corp.**, Redington Div., 3000 St. Charles Rd., Bellwood, Ill.

▲ For more details circle NED-479 F1 on enclosed inquiry slip ▲

300% FASTER ULTRASONIC CLEANING WITH SELF-TUNING*

Self-tuning Autosonic cleaners by Powertron clean faster, better and cheaper because they: Eliminate operator training and monitoring; Release labor for other work; Reduce rejects; Save on solvents.

HERE'S HOW IT'S DONE

The Autosonic is electronically self-tuned by its exclusive feedback transducer and requires no tuning knobs or meters. A simple switch is the only control.

Only Autosonic cleaners give you consistent peak performance cleaning regardless of load, solution level or temperature, contamination or operator inattention.

Powertron's complete line of Autosonic generators, tanks, cabinet models, degreasers and immersible transducers is immediately available from stock. Ask for free demonstration by Sales Engineer. *Case Histories on File.

Write for Data Sheets and free booklet: HOW TO CLEAN ULTRASONICALLY WITH SELF-TUNING.

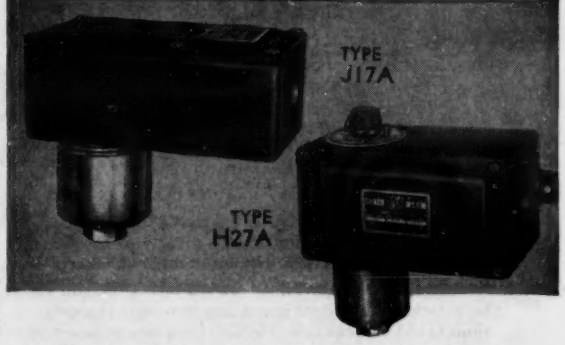
POWERTRON ULTRASONICS CORP.

DEPT. NED-6 • PATTERSON PLACE, ROOSEVELT FIELD

GARDEN CITY, LONG ISLAND, NEW YORK • Pioneer 1-3220

▲ For more details circle NED-480 F1 on enclosed inquiry slip ▲

Dual Switch PRESSURE-VACUUM CONTROLS J17A | H27A



UNITED ELECTRIC's Types J17A and H27A Pressure-Vacuum Controls are similar units that have been designed for applications where it is desirable to control two separate circuits at different pressures by means of a single control unit. The major difference between the J17A and H27A is that the J17A contains an uncalibrated adjustment while the H27A has a calibrated dial and single turn adjustment knob and pointer for making pressure settings.

Adjustable Range	Various ranges between 30" Hg vac and 180 psi limits. H27A is calibrated.
Switch Differential	Factory pre-set for values of 1" Hg to 1 psi, dependent upon model.
Differential Between Switches	Factory pre-set for values of 3" Hg to 4 psi, dependent upon model.
Switch Ratings	Up to 15 amps. at 115 or 230 volts A.C. 20 amp. A.C. or D.C. switches also available.
Switch Types	N.O., N.C., or Double Throw — no neutral position.
Maximum Pressure	Up to 180 psi.
Electrical Connections	Lead wires attached to internally located terminal blocks via a ⅞" opening.
Pressure Connections	Via a ¼" female NPT on the bellows housing.
Enclosure	Die cast aluminum with a black wrinkle finish and a brass bellows housing.
Mounting	J17A — Via pressure connection. H27A — Via pressure connection or holes in two dog ears.

UNITED ELECTRIC *manufactures a complete line of temperature, pressure, and vacuum controls. For special applications, standard units may be modified, or custom-built units can be provided. For additional data on standard pressure-vacuum controls, including Types J17A and H27A, request* Section 300 *of our new catalog.*

UE United Electric Controls COMPANY

85 SCHOOL STREET, WATERTOWN, MASS

▲ For more details circle NED-481 F1 on enclosed inquiry slip ▲

WILSHIRE NEW 4400 INDUSTRIAL POWER SWEEPER

- Variable Speeds
- Sweeps 68" path
- Holds ½ ton

CUT SWEEPING COSTS WITH THIS MAINTENANCE-FREE SWEEPER

engineered so the Maintenance Department can Add to the Net Profit of your company!

An 18 HP, 2-cylinder, 4-cycle gasoline engine powers the all-new 4400 sweeper. Two speed transmission. One foot pedal controls forward, reverse and hopper dump. Heavy duty drive chain runs in oil—permanently sealed. Self-adjusting idler pulleys. Operator controls pressure of full floating main broom and side brushes. Exclusive 12-bag filtering system. Covers a minimum of 120,000 sq. ft. per hour.

TOUGH...POWERFUL...DEPENDABLE

Rough treatment and constant use won't hurt this solid steel "baby." The Wilshire 4400 is plenty rugged, yet simple to operate and fully maneuverable even in crowded areas. Insist on a competitive demonstration before you buy. For guaranteed machine amortization, specify the new Wilshire 4400—*tops in power sweepers!*

SEND FOR PROOF TODAY!

WILSHIRE POWER SWEEPER CO., Dept. NED-661, Toledo 2, Ohio

Please rush literature and specifications. ☐ We would also like a free demonstration.

Name_____ Title_____

Company_____

Address_____

City_____ State_____

LINCOLN

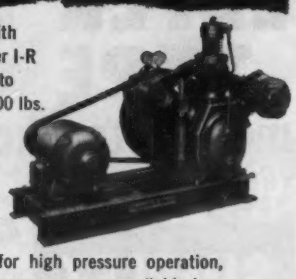
LINCOLN Floor Machinery Co. and WILSHIRE Power Sweeper Co.

divisions of AMERICAN-LINCOLN CORPORATION

▲ For more details circle NED-476 F1 on enclosed inquiry slip ▲

AIR-COOLED, HIGH PRESSURE AIR COMPRESSORS

Air-cooled units to 25 hp with pressures to 5000 lbs., other I-R high pressure compressors to 7500 hp, pressures to 35,000 lbs.



DESIGNED SPECIFICALLY for high pressure operation, these Ingersoll-Rand Air Compressors are available in a wide variety of sizes and types. I-R High Pressure Air Compressors have been engineered for dependable, economical operation in thousands of installations such as air blast circuit breakers, air starting of engines, test stands for valves, accumulator service and many others.

For complete information see your local I-R representative or distributor—or write today for new folder with helpful selection data.

Ingersoll-Rand
11 Broadway, New York 4, N. Y.

93A-3

For more details circle NED-482 F1 on enclosed inquiry slip

NOW! . . . *the industry's finest*

AUTOMATIC PARTS FEEDERS

at the industry's lowest prices!

If your operation involves the manufacture or processing of parts in volume quantities, it will pay you to investigate the cost saving advantages of Feedmatic-Detroit automated equipment.

COMPARE THESE LOW FEEDMATIC PRICES *on Standard Rotary Hoppers*

14" DIAMETER	$185.00*
16" DIAMETER	205.00*
18" DIAMETER	225.00*

All prices include 115 volt totally enclosed electric motor. 220/440 volt motor $10.00 additional.

Automatic pick-up and placement units available for complete automation of assembly process . . . designed to meet your specific requirements.

**Tracks extra, subject to quotation.*

SEND SAMPLE PARTS FOR PROMPT QUOTATION

FEEDMATIC—DETROIT, INC.
P.O. BOX 115-C • Southfield, Michigan
Rotary Hoppers • Floor Hoppers • Automatic Gaging Machines
Automatic Assembly Machines

TWO-WEEK DELIVERY ON
STAINLESS STEEL HEAT EXCHANGERS

When you need fast delivery on a heat exchanger, Pfaudler offers "off-the-shelf" service. Within 14 days of receipt of your order, we can ship, completely assembled, your choice of 12 models of a fixed tube sheet type design.

You can have single or double pass in capacities of 25, 56, 104, 149, 216, or 316 square feet. Tubes, tube sheets and bonnets are 316 stainless; shell and baffles, carbon steel.

All are designed for 350° F., 150 p.s.i., on both shell and tube sides.

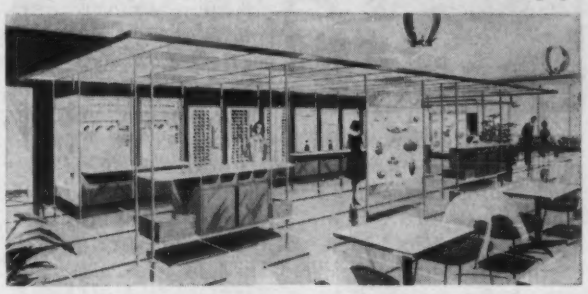
COMPLETE SPECIFICATIONS are spelled out in Reprint No. 536. For your copy write today to our Pfaudler Division, Dept. NED-61, Rochester 3, N. Y.

PFAUDLER PERMUTIT INC.
Specialists in FLUIDICS . . . the science of fluid processes

For more details circle NED-483 F1 on enclosed inquiry slip

AUTOMATIC CAFETERIA
wide variety of hot meals, salads and desserts vended from machine

Master menu of Customatic meals available in the Brass Rail automatic in-plant cafeteria includes items ranging from veal goulash with noodles to stuffed pep-



per, roast turkey, and broiled halibut steak with anchovy butter. Cafeteria is set up by franchise holders in a plant, with no management subsidy or capital investment. Personnel, kitchen space, and food handling are not required.

Prepackaged frozen meals in a cook-and-serve disposable dish are suited for use in the vending machine which reconstitutes them to their original fresh-cooked state and dispenses them hot. Such cafeterias operate around-the-clock and, properly stationed, eliminate queing-up for service. Installation layouts are planned for maximum efficiency and pleasant dining surroundings by Russel Wright. Furnished fittings include tables and chairs, utensils, and condiment holders.

Supplementary foods, including hot and cold sandwiches, salads, soups, beverages, and desserts, are also vended. Many hot dishes are served for an average cost of 50 cents. • **Brass Rail Inc.**, Vending Div., 511 Fifth Ave., New York 17, N. Y.

For more details circle NED-484 F1 on enclosed inquiry slip

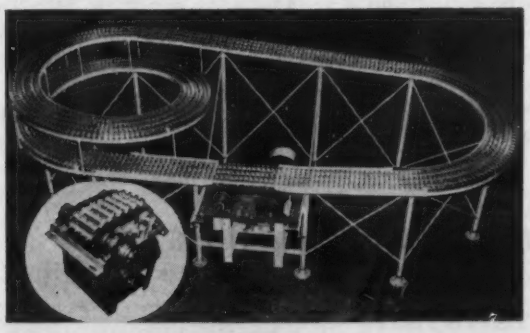
MAGNESIUM WHEEL
4, 5, and 6-in. sizes offered

Lighter than aluminum and comparable in strength to conventional steel wheels, this magnesium wheel is designed for industrial equipment using pneumatic tires. Wheel has undergone test with tires inflated well over 200 psi without distortion and withstands bare wheel bounce tests on hard concrete without flange or hub breakage. It is offered in 4, 5, and 6-in. sizes to fit standard pneumatic tires, and has either 5/8-in. bore ball bearings or 5/8 or 3/4-in. bore tapered roller bearings. All have tire-gripping devices to prevent tire slippage during hard braking and cornering. • **Go-Power Corp.**, Box 613, Palo Alto, Calif.

For more details circle NED-485 F1 on enclosed inquiry slip

WIRE BELT TRACTION DRIVE
entire belt length is utilized in transfer or conveyor system

Continuous propulsion for flat wire belts is provided by the Omniflex flat surface traction drive, eliminating the need for transfers and belt return. Shown in



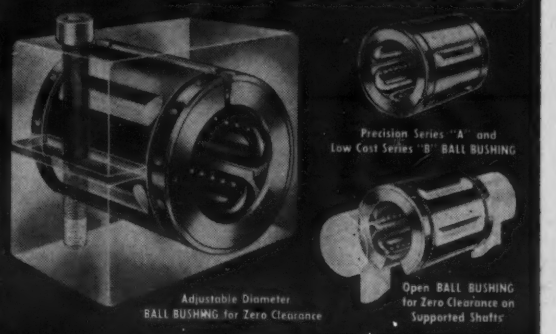
use with an Ashworth Omniflex turntable belt, it utilizes the entire belt length. The traction unit (inset) may also be employed as a booster drive for flat wire belts operating in the conventional manner over terminal sprockets or pulleys.

For a single drive unit, the total belt load range is 325 to 500 lb, with belt speed and conveyor bed friction factor determining the absolute range. Used in series, the load range is increased considerably. Drive operates at 115 fpm and will accommodate belts up to 36 in. wide. • **Ashworth Bros., Inc.**, Winchester, Va.

For more details circle NED-486 F1 on enclosed inquiry slip

NOW! *Adjustable Diameter and Open*

THOMSON BALL BUSHINGS



The BALL Bearing for *all* your **LINEAR MOTIONS**

LOW FRICTION • ZERO SHAKE OR PLAY
ELIMINATE BINDING AND CHATTER
SOLVE SLIDING LUBRICATION PROBLEMS
LONG LIFE • LASTING ALIGNMENT

The various types cover a shaft diameter range of 1/4" to 4". Small sizes available in Stainless Steel. Write for literature and name of our representative in your city.

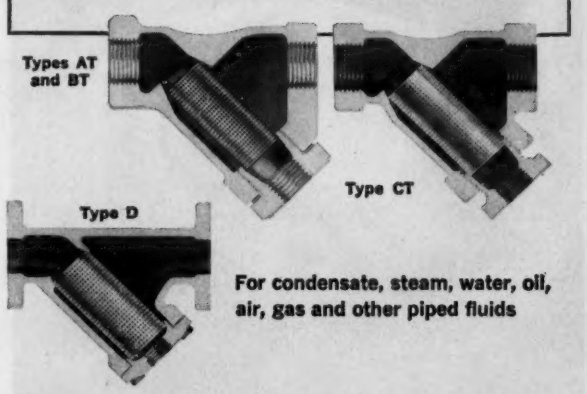
THOMSON INDUSTRIES, Inc.
Dept. C, MANHASSET, NEW YORK

Also manufacturers of NYLINED Bearings . . . Sleeve Bearings of DuPont NYLON

For more details circle NED-487 F1 on enclosed inquiry slip

Insure operation of steam traps, pumps, valves, compressors, with

SARCO PIPELINE STRAINERS



For condensate, steam, water, oil, air, gas and other piped fluids

Effective, inexpensive insurance against costly shutdown caused by dirt, scale, or chips in pipelines. Install ahead of regulators, meters, nozzles, etc., to protect working parts. Rigid metal screen. No weave crevices to trap particles. Readily cleared by blowdown connection.

Select from full line of bodies, screens, ratings, types. For bulletin contact your Sarco sales representative, sales office, or distributor, or write:

6895

SARCO
SARCO COMPANY, INC.
635 MADISON AVE., NEW YORK 22, N. Y.
PLANT: BETHLEHEM, PA.

For more details circle NED-488 F1 on enclosed inquiry slip

EXTRA VALUE* FASTENERS

Red Seal® CALKING ANCHORS

*EXCLUSIVE RED FIBRE DISC KEEPS DIRT OUT OF THREADS.

KEYSTONE® EXPANSION SHIELDS

*Exclusive Nutstop Prevents Nut Pullout.

DIAMOND-P-® LAG SCREW SHIELDS

*Exclusive 4-Directional Expansion Fits Irregular Holes.

wing-ding HOLLOW WALL ANCHORS

*5 Times Greater Thread Area... No Stripping!

DIAMOND SPRING TOGGLE BOLTS

*Patented Feature: Wings Form Truss; Don't Bear on Bolt.

PLUS More Than 500 Other Items With "Built-In" Extras
PLUS Exclusive Pole Line Hardware

FREE SAMPLES
and Pocket Guide to Better Fastening
Send Request to:

DIAMOND

DIAMOND EXPANSION BOLT CO., INC. 502 North Avenue, Garwood, N. J.

For more details circle NED-489 F1 on enclosed inquiry slip

In every detail of size, weight, space requirements, materials, power and costs, Eastern Centrifugal Pumps are made to match strict process requirements.

- **PRESSURES:** to 21 psi in single stage pumps; to 70 psi in multi-stage types
- **FLOWS:** capacities to 70 gpm in single-stage pumps, to 10 gpm for many multi-stage models
- **MOTORS:** standard motors for 115/230-volts 60 cycles 1 phase (other electrical characteristics available). Power range from ⅛ to 1½ H.P.
- **ENCLOSURES:** drip-proof, totally enclosed, and explosion-proof ball-bearing frames
- **SEALS:** a variety of rotary seals and stuffing boxes, to fit every application
- **METALS:** your option of cast iron, bronze, Stainless steel (18-8 type 303 and 316) Monel, Cast Iron, Hastelloy "C"
- **INSTALLATIONS:** a wide range of transfer, recirculation, feed, boost, and filter-pumping applications

TO FIND OUT: write for the brand-new Centrifugal Pump Catalog — Bulletin 130. Here are all the models — including useful engineering data.

solve the processing puzzle WITH EASTERN CENTRIFUGAL PUMPS

EASTERN INDUSTRIES, INC.
100 SKIFF STREET • HAMDEN, CONNECTICUT
West Coast Office: 4203 Spencer St. • Torrance, Calif.

For more details circle NED-492 F1 on enclosed inquiry slip

New! Bench or portable masker
Model P-10 Dispenses aprons up to 18" wide.

PERMACEL NEW BRUNSWICK NEW JERSEY

Tapes • Electrical Insulating Materials • Adhesives

For more details circle NED-493 F1 on enclosed inquiry slip

Precision Matched to Every Job

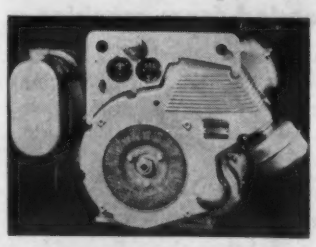
Hannay's wide range of component sizes, materials and rewind power packages lets you specify the exact capacity, power rating and rewind drive your job requires. Send for new data sheet on applications, construction and operating features.

REELS by HANNAY

CLIFFORD B. HANNAY & SON, INC.
WESTERLO, N. Y.

For more details circle NED-494 F1 on enclosed inquiry slip

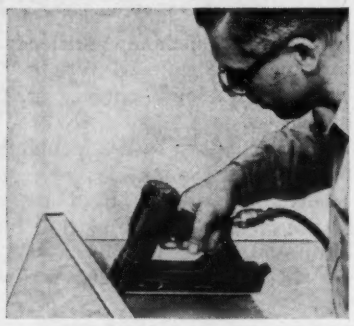
ALUMINUM GASOLINE ENGINES
9 and 18-hp, 1 and 2-cylinder models



Latest in a line of die-cast aluminum engines are single and two-cylinder models rated 9 and 18 hp, respectively. Applicable in industrial, railroad, construction, petroleum, and marine fields, engines are lightweight and vibration-free in operation. Cylinders are offset 35 degrees from horizontal in the single-cylinder unit, and oppose each other in the twin-cylinder model. This keeps pistons from "bottoming" and results in smooth operation. More than half the parts in both engines are interchangeable. The four-cycle, air-cooled unit shown delivers 9 hp at 4000 rpm and maximum torque of 15 lb-ft at 2500 rpm. It has a 12-v, 6-amp alternator and can be equipped to run on kerosine, LP-gas, or natural gas, as well as on gasoline. • **Outboard Marine Corp.**, OMC Engines & Equipment Div., 500 Pershing Rd., Waukegan, Ill.

For more details circle NED-495 F1 on enclosed inquiry slip

BRAD GUN
for flush or countersunk driving



Compact Model B-6032 Duo-Fast Junior brad gun is operated either with its conventional trigger or by a touch-trip mechanism. It can be powered by a small portable air compressor or by a plant air system. Gun holds 100 brads, loaded through a rear chute, and drives them flush or countersunk 1/16 in. Lengths of ⅝, ¾, ⅞, and 1 in. can be driven. • **Fastener Corp.**, 3702 River Rd., Franklin Park, Ill.

For more details circle NED-496 F1 on enclosed inquiry slip

COORDINATE MEASURING MACHINE
quickly gages location of holes and surfaces of parts in two dimensions

Working range of 15 x 24 in. enables the Ferranti FI-22 coordinate measuring machine to gage the location of holes and surfaces in two dimensions on a wide variety of part shapes and sizes. Both X and Y coordinate readings are displayed simultaneously by lighted numerals on the front panel. Part tolerances of 0.001 in. are measured to the nearest 0.0005 in.

Machine can also be used for layout and scribing, to center-punch precision parts, and to handle other inspection jobs. Scribing tip is substituted for the probe in layout work. In center-punch operations, both axes can be locked and a spring-loaded punch tip installed on the probe-holder. Interchangeable tapered probe tips, as well as flat probes for edge location, are available.

Machine has 34½ x 21½-in. work table surface and maximum work height of 10¾ in. It operates on 110-v ac. • **Sheffield Corp.**, Box 893, Dayton 1, Ohio.

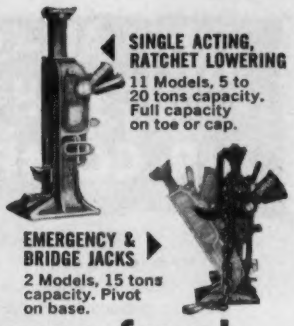
For more details circle NED-497 F1 on enclosed inquiry slip

HYDRAULIC SYSTEM HOSE
for working pressures to 3000 psi

Synthetic inner tube with alternating layers of spiral wire wrapping and synthetic rubber is used in No. 2755 Spiral Wrap hose. Segmented fittings are quickly and easily assembled with simple hand tools. Suited for hydraulic system with working pressures up to 3000 psi, hose is made in 1¼ to 2-in. sizes. It need not be skived to attach the leak and blowoff proof reusable fittings. • **Aeroquip Corp.**, 300 S. East Ave., Jackson, Mich.

For more details circle NED-498 F1 on enclosed inquiry slip

45 LEVER TYPE models to choose from!



SINGLE ACTING, RATCHET LOWERING
11 Models, 5 to 20 tons capacity. Full capacity on toe or cap.

EMERGENCY & BRIDGE JACKS
2 Models, 15 tons capacity. Pivot on base.

THE WORLD'S MOST COMPLETE LINE!

SIMPLEX LEVER JACKS

ALSO: Pole pulling jacks, cable reel jacks, pipe pushers & pullers, wire tensioning, trench & timber jacks.

GEARED JACKS
3 Models, 25 to 35 tons capacity. Side toe lift.

TRACK (TRIP) JACKS
13 Models (Five aluminum alloy) Single and double acting.

Write for Mechanical Jacks Catalog

TEMPLETON, KENLY & CO.
2565 Gardner Road
Broadview, Illinois

For more details circle NED-499 F1 on enclosed inquiry slip

FOR FEWER TROUBLE CALLS

Dow Corning silicone lubricants have superior heat resistance . . . won't thin out, gum up or oxidize. They provide long-time lubrication even when bearing temperatures are as high as 400 F. Specify silicones wherever high temperature is a problem and "special" lubricants are required. Write today for FREE SAMPLE and literature. Dept. A818.

FREE SAMPLE

first in silicones **Dow Corning CORPORATION** MIDLAND, MICHIGAN

For more details circle NED-500 F1 on enclosed inquiry slip

One of these WELLS SAWS is just the tool you need to make maintenance more efficient

Model 58-B
Capacity: 6" x 10"

Model 300
Capacity: 3½" x 6"

Your metal cut-off jobs, vertical cutting, slotting, notching can be done efficiently and economically at the job-site with one of these convertible Wells saws. The Wells Model 58-B and its smaller companion, the Model 300, can be used as horizontal cut-off saws or as upright saws. Both are available with optional wheels and handle for complete mobility. Both are ruggedly built to Wells Manufacturing Corporation's high standards of industrial quality. Ask your Wells dealer about them today or write for descriptive literature.

Wells SAW SPECIALISTS SINCE 1926

61-2A

WELLS MANUFACTURING CORPORATION
1313 Harding St. • Three Rivers, Mich.

For more details circle NED-501 F1 on enclosed inquiry slip

Modern Methods Cost Less

SAVE MATERIAL AND TIME WHEN YOU CUT PAPER, LEATHER, PLASTICS, OTHER SOFT STOCK

Whatever soft materials you cut, Hobbs-Jacques Hand Shears do the job quickly and accurately in one easy stroke. Even if it's only an occasional operation, modern "engineered cutting" equipment saves the cost of waste materials and time.

Hobbs-Jacques Hand Shears include a complete line for widths 16" to 10'. Bench and table models, with and without gauges.

Write for "Engineered Cutting" brochure. No obligation!

HOBBS MANUFACTURING CO.
EST 1882 41F SALISBURY ST., WORCESTER 8, MASS.
Direct Sales Offices in Irvington, N. J., Columbus, O., Chicago, Ill. and Los Angeles, California
Representatives in Greenville, S. C. and Toronto, Ont., Canada

WINDERS
HAND AND POWER SHEARS
DIE PRESSES
SLITTERS

▲ For more details circle NED-502 F1 on enclosed inquiry slip ▲

Now- ONE AMMETER for both AC and DC

TONG TEST is the only ammeter of its type that measures both alternating and direct current. Get instant readings, without shutting down equipment, by merely snapping tongs around electrical conductor. Interchangeable ranges up to 1000 amperes, impossible to read wrong scale. Eight types of TONG TEST available for conductors up to 3⅞" diameter or bus bars up to 4½" x ½".

Write for Catalog ND-400

COLUMBIA ELECTRIC MFG. CO.
4525 Hamilton Ave.
CLEVELAND 14, OHIO

AC-DC VOLTMETER

Reads up to 600 volts, AC or DC. Convenient, accurate, compact. Model UV-1 $25.00 complete with voltage leads.

▲ For more details circle NED-503 F1 on enclosed inquiry slip ▲

ROLLPIN® SHOP KIT $12.00

The Rollpins in this handy compartmented kit serve the function of taper pins, straight pins, set screws, rivets, dowels, cotter pins, etc. They're slotted, chamfered, tubular spring pins that exert constant pressure against the walls of the holes into which they're driven. They won't loosen even under severe vibration. Over 700 Rollpins; diameters from 1/16" to ½"—lengths from 3/16" to 3¼".

We guarantee you'll find Rollpins the easiest, quickest solution to hundreds of fastening problems in machine, repair and prototype assembly shops.

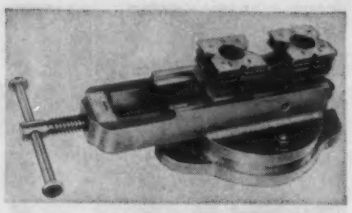
Send for Rollpin Kit #300 today. Mail check or purchase order for $12.00 (we pay postage). No C.O.D.'s please. Write: Dept. R57-637

ROLLPIN TRADEMARK

ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Rd., Union, New Jersey

▲ For more details circle NED-504 F1 on enclosed inquiry slip ▲

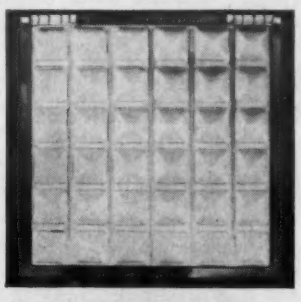
MACHINE VISE
grips wide variety of shapes



Jaws of the Super Vise can be positioned to hold rounds, squares, flats, rectangles, angles, tees, or tubing firmly. Multiform profiles ground into the hardened tool steel jaws make possible the gripping of these and other material shapes. Thin wall tubing is held without distortion. Main body is machined from heat treated solid alloy steel plate. • **C. H. Stoelting Co.**, 424 N. Homan Ave., Chicago 24, Ill.

▲ For more details circle NED-505 F1 on enclosed inquiry slip ▲

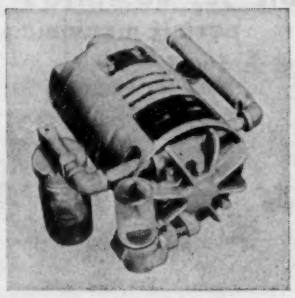
PANEL FLUORESCENT LAMP
waffle configuration diffuses light



Measuring 11⅝ in. square and 1½ in. deep, this GE panel fluorescent lamp fits into a 12-in. square module and affords a convenient way of getting more light in a small space. It can be used singly or in groups and lends itself to built-in, surface-mounted, suspended, and free-standing applications. Face plate has a 1¾-in. square waffle pattern which diffuses the light and conceals the arc path. Bi-pin terminals are behind an outer rim at adjacent corners and are entirely within the over-all dimensions. Lamp operates at either 80 or 50 w at which it produces 4800 and 2900 lumens, respectively. Rated life is 7500 hr at both wattages. Lamp is offered in front-lighting and front-and-back lighting versions. Price is $6.95. • **General Electric Co.**, Nela Park, Cleveland 12, Ohio.

▲ For more details circle NED-506 F1 on enclosed inquiry slip ▲

AIR PUMP & MOTOR
delivers continuous 27-in. Hg vacuum



Powered by a ¾-hp motor, Model K-5 integral air pump and motor provides continuous 27-in. Hg vacuum, 15-psi pressure, and 12-cfm volume. It can be run continuously and requires no maintenance except oiler refill every 60 to 80 hr. Unit has cast iron housing, cooling fan, inlet air filter, outlet filter and silencer, automatic thermal overload protection, and rubber mounting. Also available are 2.4, 3.6, and 7.2-cfm units providing 27-in. Hg vacuum and 20-psi pressure. • **Leiman Bros., Inc.**, 102 Christie St., Newark 5, N. J.

▲ For more details circle NED-507 F1 on enclosed inquiry slip ▲

What shape is a quality fastener?

Here is a handful of ELASTIC STOP® nuts. Each has ESNA's familiar red locking collar*. . . is vibration-proof and made of the finest materials. Each is exactly controlled as to finished dimensions, class of thread fit and finish . . . with an unmatched record for uniformly high quality. **Most of them are standard parts . . .** some originated as a result of a specific request for ESNA's assistance. So . . . for help on *your* next fastening problem, send us the details of your application. Write Dept. S2-637.

**The red locking collar is a Registered Trade Mark of ESNA.*

ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, New Jersey

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WEAR RESISTANT
THOMSON

AVOID the HIGH COST and difficulty of fabricating long, hard & straight parts by conventional methods . . .

60 Case hardened and ground

SHAFTS, ROLLS, GUIDE RODS and other long-round parts ELIMINATE WEAR and REDUCE COST

ADVANTAGES of 60 Case

- COST REDUCTION
- HARD BEARING SURFACE
- NICK- & DENT-PROOF
- ACCURATE DIAMETERS
- GROUND FINISH
- STRAIGHT PARTS
- DELIVERY FROM STOCK
- ADDED STRENGTH
- UNIFORM HIGH QUALITY

60 Case material has a Rockwell 60C surface hardness which is essential to reduce wear.

Big savings are offered over conventional methods which are plagued with erratic warpage, straightening and resultant grinding problems. Finished *60 Case* parts frequently cost less than the scrap losses that result from conventional methods.

Stocked in ¼" to 4" diameters. Available with or without special machining. *Write for literature and name of your local representative.*

TYPICAL 60 Case PARTS

GUIDE RODS, SHAFTING, ROLLS, TRAVERSE RAILS, PISTON RODS, ARBORS, LEADER PINS, TIE RODS, KING PINS, AXLES, CONTROL RODS, GUIDE POSTS, MANDRELS, BEARING ROLLERS, SPINDLES

For emergency needs call collect MAnhasset 7-1800

THOMSON INDUSTRIES, Inc.
Dept. C2, Manhasset, New York

PARTS HARDENED to 60 C...increase life...reduce cost!

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POSITIVE AUTOMATIC PRESSURE CONTROL?

CHECK YOUR REQUIREMENTS AGAINST FULFLO SPECIFICATIONS

- Screw or flange models
- Pressures to 500 pounds
- Pipe sizes to 3"
- Steel, cast iron or brass bodies
- Brass, steel or stainless trim
- All-steel for extra safety

FULFLO gives you what you want in safe, trouble-free and quiet operation for any hydraulic system. Shear-closing action eliminates chattering; sliding piston gives full flow opening; distinctive construction allows easy adjustment within the valve's pressure range or change of the pressure range. Whatever your requirement . . . for O.E.M. use or replacement service . . . there's a FULFLO Oil By-Pass Relief Valve designed just right, built right and priced right, too!

NEED A "Special"?
FULFLO can engineer a special valve to your most exacting requirements. Examples of "specials" are shown in Data Book.

FOR EXTRA CONVENIENCE
Where frequent pressure setting adjustment is needed, install a FULFLO Hand Wheel Valve. Made in a variety of styles.

FOR COMPLETE INFORMATION, request a copy of the FULFLO Valves Mechanical Data Book with complete specifications and engineering data.

"FULFLO" TRADE MARK REG. U.S. PAT. OFF.

THE FULFLO SPECIALTIES CO.
INCORPORATED
412 Fancy Ave. Blanchester, Ohio

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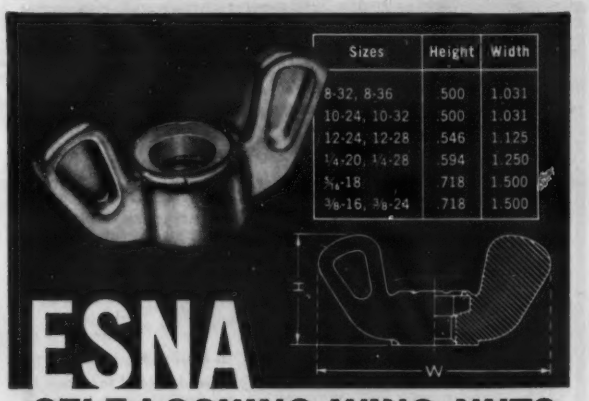

Sizes	Height	Width
8-32, 8-36	.500	1.031
10-24, 10-32	.500	1.031
12-24, 12-28	.546	1.125
¼-20, ¼-28	.594	1.250
5/16-18	.718	1.500
3/8-16, 3/8-24	.718	1.500

ESNA

SELF-LOCKING WING NUTS with nylon inserts are VIBRATION-PROOF... PRECISELY ADJUSTABLE

The famous ESNA red nylon locking insert gives smooth, consistent locking torque in any position on bolt or stud. Cannot be loosened by vibration, yet is easily adjustable by finger pressure. Gives same dependable locking torque through repeated on-off usage. For full information write Dept. S51-637, Elastic Stop Nut Corporation of America, 2330 Vauxhall Road, Union, New Jersey.

ELASTIC STOP NUT CORPORATION OF AMERICA

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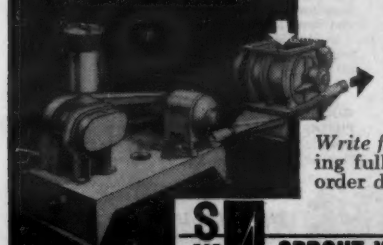
4

STANDARDIZED
EASY-TO-ORDER
PACKAGED
AIR SYSTEMS
stocked for
immediate shipment
at BIG SAVINGS



75% to 80% of all pneumatic conveying needs are now standardized — with savings passed on to you!

Data processing has made it possible to analyze and tabulate Sprout-Waldron's long experience in air conveying systems.

The result? Sprout-Waldron cuts the cost of Pneumatic Conveying Systems! Standard component parts are now being manufactured and carried in stock for quick shipment — *with the savings passed on to you!*

Now, most air handling requirements can be ordered *without* costly surveys or special engineering help.

Write for Bulletin 228 showing full details and easy-to-order data.

629

SW SINCE 1866 **SPROUT, WALDRON & CO., INC.**
MUNCY, PENNSYLVANIA

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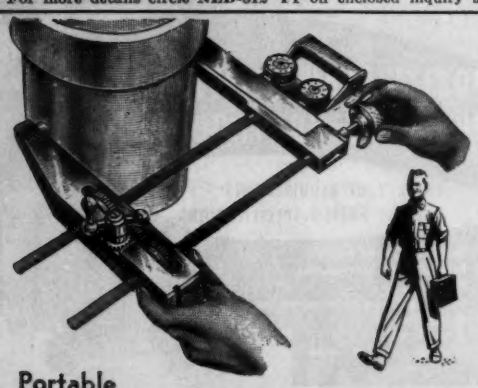

Portable
HARDNESS TESTER
gives "on the spot" Rockwell readings

Test materials, tools, or pieces in production "right there, right now!" Save the work of taking samples to the test bench, save the cost of sectioning, eliminate errors due to need for conversion of other scales to Rockwell hardness numbers. Large dial markings are in standard red and black for quick identification of Rockwell scales, A, B, C, D, E, F, G, H and K — all available as standard. Uses standard indentors, loads — no scale conversions required.

FOR A DEMONSTRATION, WRITE Dept. NED-661

Riehle®
RIEHLE TESTING MACHINES DIVISION OF
American Machine and Metals, Inc.
EAST MOLINE, ILLINOIS

▲ For more details circle NED-513 F1 on enclosed inquiry slip ▲

NEW BLU-RAY Whiteprinter offers 50% MORE SPEED!

MAKES CLEAR DIAZO PRINTS IN SECONDS FOR PENNIES!

Copies anything printed, typed, drawn or written on any translucent material. Just slide Tracing and Diazo Paper thru BLU-RAY. Get FAST, EXACT EXPOSURE.

Makes Sepia Reproducibles

From **$197.50** All Prices Eastern List

UL & CSA Approved

3 Lamps for faster operation. No warm-up. Speed control for exact exposure. 3 Models: 14", 27", 42" print width capacities: any length. Portable.

Thousands of Guaranteed BLU-RAYS in use not because they're the cheapest, but because they're the best, most reliable dollar value. Get a demonstration and see for yourself.

AVAILABLE ON LOW COST MONTHLY LEASE PLAN

NOW BLU-RAY OFFERS 2 DIAZO DEVELOPERS

1. NEW FLUTED SEE-THRU AMMONIA DEVELOPER TUBE.

FROM $11.55

2. NEW CONTINUOUS ROTARY DRY DEVELOPER FOR FASTER DEVELOPING.

For use with BLU-RAY and other Rotary Diazo Whiteprinters.

3 Models from $129.50

SEND FOR LITERATURE OR DEMONSTRATION IN YOUR OFFICE

BLU-RAY by R.E.C. Reproduction Engineering Corporation 7 Westbrook Road, Essex, Connecticut

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INDUSTRIAL WASHING UNIT
air powered, mounts on 55-gal drum

Self-contained, air-powered Wash-All unit operates on 150 to 175-psi pressures and mounts on any 55-gal metal drum. Used to clean motors, machinery, parts, and assemblies, as well as floors and walls, it is equipped with both wide and narrow spray nozzles. A cleaning solution made up of 1 oz of Weaver washing compound No. 1 per gallon of water is used. • **Dura Corp.**, Weaver Mfg. Div., 2100 S. Ninth St., Springfield, Ill.

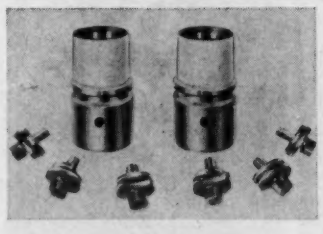
▲ For more details circle NED-515 F1 on enclosed inquiry slip ▲

ELECTRONIC THERMOMETER
reads Fahrenheit-Centigrade direct

Instant direct readings are provided on the combination Fahrenheit - Centigrade scale of this Model T-1 electric thermometer. It will instantly and accurately determine the temperature of surfaces, liquids, or gases upon application of the thermistor sensing probe to the surface or substance to be checked. This portable, compact, West German-made instrument is easy to use. • **Ameresco, Inc.**, 7 Center Ave., Little Falls, N. J.

▲ For more details circle NED-516 F1 on enclosed inquiry slip ▲

DIE SET BUSHINGS
permit machining of mounted dies



By using these insulated demountable bushings in a die set and mounting an expendable punch or copper electrode on the production punch, the die can be machined to required accuracy by electrical discharge. Process reduces mounting and aligning time. Bushings have an insulated surface which contacts the punch holder and are furnished with insulated mounting clamps. They withstand a potential exceeding 1100 v and have standard lubrication fittings and oil grooves on the inside. They are stocked in 1, 1¼, and 1½-in. sizes, although other sizes are available. • **Danly Machine Specialties, Inc.**, 2100 S. Laramie Ave., Chicago 50, Ill.

▲ For more details circle NED-517 F1 on enclosed inquiry slip ▲

ELECTRIC DOOR OPERATORS
hidden in header, or visibly mounted

Applicable to new or existing entrance or service doors, Magic-Door electric automatic door operators are designed for in-the-header mounting (Model EH-1) or visible mounting (Model EV-1). Operator has standard 110-v single-phase ac power supply with optional plug-in or direct wiring. Fuse and overload protection, and built-in disconnect switch are included. Hold-open is accomplished by switch control and built-in power reduction, and power increase is adjustable to meet job conditions. Equipment will operate hinge, center pivot, and offset pivot-hung 30 to 42-in. wide doors. Operator can be removed without removing door or dismantling frame. • **Stanley Works**, Stanley Hardware Div., Magic Door Sales, Dept. PD, 195 Lake St., New Britain, Conn.

▲ For more details circle NED-518 F1 on enclosed inquiry slip ▲

AUTOMATIC FLOW
with Work-O-Matic* box and stand

TEAMING the Work-O-Matic drop-bottom box with Union Metal's specially designed positioning stand means uninterrupted feeding of parts-in-process at proper working level. Result—operator and machine receive a continuing supply of materials . . . no waiting . . . no lost production . . . no stoop, stretch or bend.

In addition, Union Metal offers industry's broadest line of conventional type material handling containers. Write for complete catalog information. Address The Union Metal Manufacturing Company, Canton 5, Ohio.

UNION METAL
Material Handling Equipment

▲ For more details circle NED-51

Electrical Protection is MODERNIZED with BUSS Fuses...

in the Multnomah Hotel Portland, Oregon

In this well-known hotel of the Northwest, it became necessary to modernize the electrical system to take full advantage of the many uses for electricity today.

To assure safe, dependable and lasting protection, BUSS Hi-Cap and FUSETRON fuses were installed.

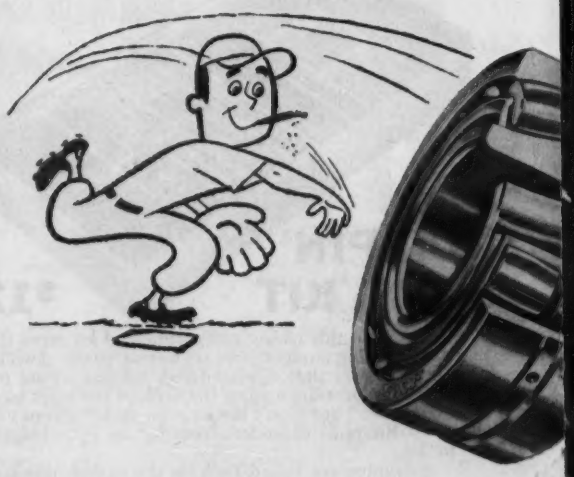
This is another example of the modern trend in electrical protection. Architects, engineers and plant operating men are finding no other type of device can equal fuses for high-interrupting capacity and lifetime, maintenance-free dependability.

Fuses provide high interrupting capacity at a very low cost.

Fusetron fuses have an interrupting rating of 100,000 amps. rms symmetrical—and for BUSS Hi-Cap fuses it is 200,000 amps. rms symmetrical.

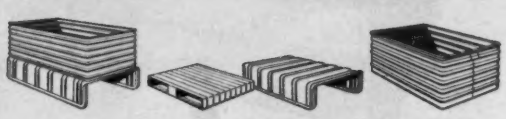
▲ For more details circle NED-520

The Authorized



Adv

▲ For more details circle NED-521



*Patent No. 2,445,038

F1 on enclosed inquiry slip ▲

F1 on enclosed inquiry slip ▲

SKF Distributor comes through on deliveries

Try him on any type and size of bearing. He'll come through—because he stocks SKF bearings, the most complete line of types and sizes available today. And nobody (but nobody) can get them to you any faster.

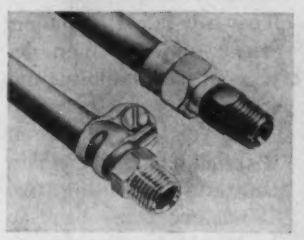
5918

SKF MOTION ENGINEERING

anced ball and roller bearing technology

F1 on enclosed inquiry slip ▲

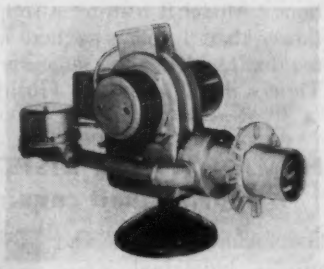
TEFLON-LINED TUBING
handles hot, corrosive fluids



Suited for service involving corrosive laboratory and industrial fluids at temperatures as high as 300° F, Safe-T-Line Teflon-lined rubber tubing is flexible and will not collapse under vacuum. Sizes range from 1/8 to 1/2-in. ID for handling pressures to 125 psi. • W. S. Shamban & Co., 11617 W. Jefferson Blvd., Culver City, Calif.

▲ For more details circle NED-522 F1 on enclosed inquiry slip ▲

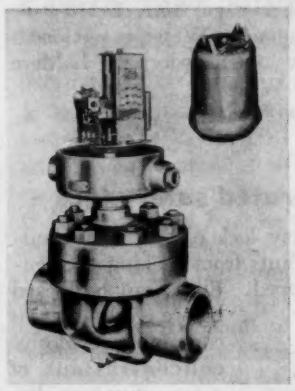
GAS CONVERSION BURNER
has 800,000-Btu maximum input



Blower of the Cyclo-Jet GB-800 power gas conversion burner has a 3450-rpm motor to supply all of the air for combustion in boilers with limited furnace volume or low stack condition. Motor and blower housing can be above or below the level of the firing head. Unit is designed for natural gas only, and has a maximum input of 800,000 Btu per hour. Controls are standard electronic type. Burner is supplied wired and factory fire tested. • Roberts-Gordon Appliance Corp., 44 Central Ave., Buffalo 6, N. Y.

▲ For more details circle NED-523 F1 on enclosed inquiry slip ▲

SWING-CHECK VALVE
is magnet-coupled to switch



Combining the functions of a check valve with the advantages of a flow control, this Model FCV full-flow swing-check valve is suited for practically any liquid service at any normal pressure or temperature. The valve disk is magnetically coupled to a switch mechanism which has mercury-to-mercury contacts. Its pneumatic pilot mechanism can be substituted for the standard electric switch mechanism as an optional feature. It will provide remotely signalled flow or no-flow and/or an interlock safety control in start-up or shutdown, flow or no-flow. It can also indicate valve position from full-closed to full-open, and it is field adjustable. • Magnetrol, Inc., 5300 Belmont Rd., Downers Grove, Ill.

▲ For more details circle NED-524 F1 on enclosed inquiry slip ▲

NEW

Plug in anywhere on 110 volts A.C. or D.C.

Whether you work with metal, plastics, leather, rubber, wood or glass, this precision miniature power tool will ease and speed your work. No more gripping an unwieldy 1/4" drill with both hands—Foredom's pencil slim handpieces are ideal for every sort of sensitive operation, leaving one hand free to hold or guide the work.

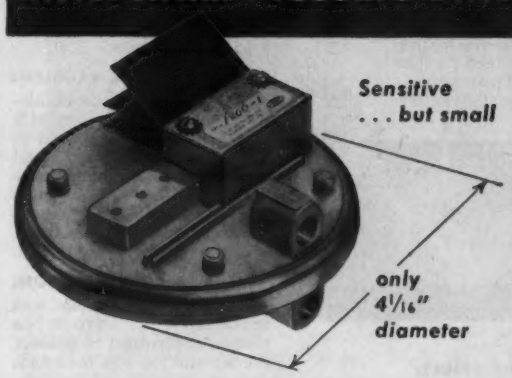
• 1/10 HP motor with speed range up to 12,000 RPM. • New carbon-pile, continuously variable foot rheostat.

UL approved . . . For complete information, write today for Bulletin #213.

FOREDOM ELECTRIC COMPANY, INC.
Bethel, Connecticut
Manufacturers of Miniature Power Tools

▲ For more details circle NED-525 F1 on enclosed inquiry slip ▲

New, Low Cost Dwyer Differential Pressure Switch



New Dwyer No. 1800 Series Switch is compact, low cost and highly sensitive to differential pressures in ranges from 0.15" to 80" water. Holds set point through various total pressures. Because of unusually small mass of moving parts, it is virtually unaffected by vibration. Use in any position. Pilot lights, explosion-proof housing, other optionals available. Request Bulletin E-40 for specs.

F. W. DWYER MFG. CO.
P. O. BOX 373-Q • MICHIGAN CITY, INDIANA

▲ For more details circle NED-526 F1 on enclosed inquiry slip ▲

NIAGARA Air-Cooled Heat Exchangers Bring You Extra Savings

Your Niagara Aero Heat Exchanger sets you free from dependence on a costly cooling water supply and solves the problem of water disposal. It pays for itself quickly and its long-lasting quality and dependability keep it constantly saving money for you and adding to your profit.

This Niagara design also saves you much labor and money in installation and upkeep. Its cleanable coils are easily accessible, as are all interior parts. Its panels are removable for cleaning and painting. It is easy and inexpensive to keep in "new machine" condition.

Niagara Aero Heat Exchangers have been making good records as revenue producers and cost savers for their owners for more than thirty years. Use them wherever you need to cool a liquid or a gas in industry.

Write for Bulletins 120 and 132.

NIAGARA BLOWER COMPANY
Dept. ED-6, 405 Lexington Ave., New York 17, N. Y.
Niagara District Engineers in Principal Cities of U.S. and Canada

▲ For more details circle NED-527 F1 on enclosed inquiry slip ▲

NEW

Foredom miniature power screwdrivers boost production of thermocouples 87% at Harco Laboratories, Inc., New Haven, Conn. Tedious and slow hand driving of the many small screws in each assembly is replaced by the swift, efficient Foredom action—with important savings of time and money.

Available in bench or hang-up model, the screwdriver has adjustable touch control, handles screws and nuts from #0 to #4.

Handpiece is 8" long, weighs only 5½ oz. Powered by 1/10 HP universal motor. For complete information, write now for Bulletin #224.

FOREDOM ELECTRIC COMPANY, INC.
Bethel, Connecticut
Manufacturers of Miniature Power Tools Since 1922

▲ For more details circle NED-528 F1 on enclosed inquiry slip ▲

COMMANDER TAPPER handles "IMPOSSIBLE" tapping job

THE JOB: Tap 4 6-32 holes 11/16" deep in the hubs of production run, heat treated gears.

THE PROBLEM: Excessive breakage of the specially relieved taps used to handle the unusual depth-to-diameter tapping job . . . spoiled parts . . . high costs. A number of different tappers were tried, but the problem remained.

THE SOLUTION: A Commander Tapper was installed . . . adjustable torque control set to protect the tap and job was resumed.

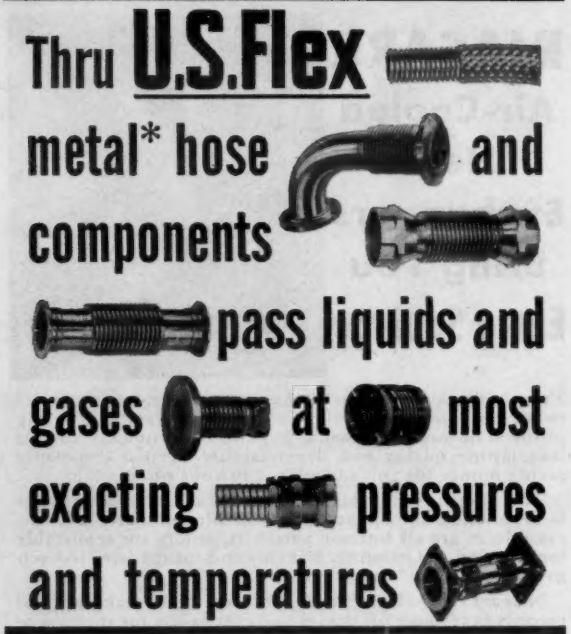
THE RESULT: 1700 pieces were tapped without breaking a single tap. Tolerances were held and a very high rate of production was maintained.
This is typical of the performance a Commander Tapper can produce.
The extreme sensitivity, and wide range of adaptability of a Commander Tapper can be put to work for you; ask your nearby Commander Distributor for a demonstration.

114

Commander MFG. CO.
4220 WEST KINZIE STREET • CHICAGO 24, ILLINOIS

For more details circle NED-529 F1 on enclosed inquiry slip

Thru U.S.Flex metal* hose and components pass liquids and gases at most exacting pressures and temperatures



*STAINLESS *BRONZE *STEEL

Write Our Engineering Staff for Free Consultation on Your Problems . . .

U.S. FLEXIBLE TUBING CO.
215 MAIN STREET BARTLETT, ILLINOIS

For more details circle NED-530 F1 on enclosed inquiry slip

Power Tools are designed to save you time and money...

- - - APEX Fastening Tools are designed to make sure you do!

There are more than 7,000 types of sizes of Apex Screwdriving and Nut Running Tools, for use with all popular makes of air and electric power tools.

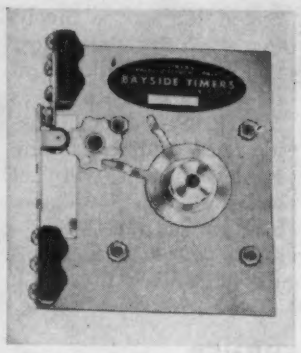
APEX

WRITE FOR CATALOG
30-A – Nut Running Tools – to 5/8" drive
30-B – Nut Running Tools – over 5/8" drive
30-C – Screwdriving Tools
30-D – Specials and Spline Drive

THE APEX MACHINE & TOOL COMPANY
1046 S. Patterson Blvd. • Dayton 2, Ohio

For more details circle NED-531 F1 on enclosed inquiry slip

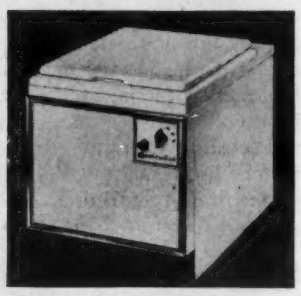
SWITCH ACTUATORS allow on or off through 350 degrees



Two switch actuators which afford a high degree of adjustability and long life are designed to allow "on" or "off" from 0 through 350 degrees in contrast with using two 180-degree cams back to back. Units can be arranged to close on one revolution and open on alternate revolutions. Model A has heavy silver contact rated at 1500 w incandescent. At speeds from 1 to 60 rpm, mechanical life is over 1 million operations. Model B features a snap switch for applications slower than 1 rpm, or where a double-throw switch is required, and has the same life expectancy. • **Bayside Timers**, 43-69 162nd St., Flushing 58, N. Y.

For more details circle NED-532 F1 on enclosed inquiry slip

HUMAN WASTE DISPOSER odorless unit requires no plumbing



Gas fuel used by the Destroilet individual waste disposal unit transforms human waste matter into odorless, invisible, and harmless water vapors and carbon dioxide. Plumbing and septic tanks are not required. The extremely high temperature combustion process is controlled with safety features found in standard automatic furnaces. Installation requires a gas line, a 110-v ac outlet, and a flue to the outdoors. Water is not needed, and an exhaust fan draws out all odors. • **LaMere Industries, Inc.**, Walworth, Wis.

For more details circle NED-533 F1 on enclosed inquiry slip

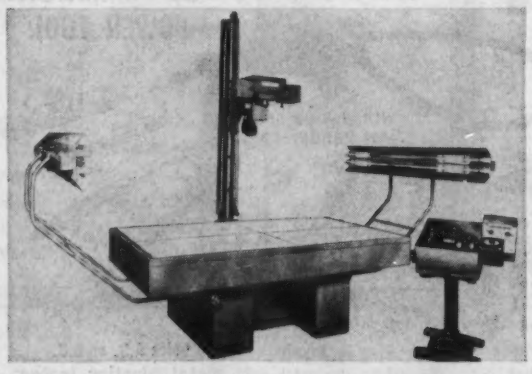
SPARK LIGHTER with trigger-operated safety lock

Simple, trigger-operated safety lock of the Tripl-Flint-Lok spark lighter prevents flints from striking accidentally, even if lighter is dropped. Flints can be locked before entering areas containing explosive concentrations of gases, dust, or liquids. Lighter has replaceable three-flint unit, an anti-snag pocket guard, and rustproof steel frame. • **Modern Engineering Co.**, 3401-15 Pine Blvd., St. Louis 3, Mo.

For more details circle NED-534 F1 on enclosed inquiry slip

PLANETARY MICROFILM CAMERA reduction change is motor operated

Automatic focus and motor-operated reduction change are featured by the 35-mm F1088 planetary microfilm camera. Unit requires 8-ft 6-in. ceiling height and



affords reduction ratios from 8 to 30 times. Film is held flat on the exposure plane by curved aperture and suction. Camera is also available with a 36X lens on a 9-ft 6-in. pole to cover a 42 x 60-in. area. Illumination is provided by either projection flood or fluorescent lamps with variable intensity. Exposure is governed by an electrically operated shutter, controlled by an electronic timer to within 1/10 sec from 0 to 11 sec. Automatic elevator stops, multiple exposure counter, and automatic exposure control are among accessories. • **Sperry Rand Corp.**, Remington Rand Systems, 122 E. 42nd St., New York 17, N. Y.

For more details circle NED-535 F1 on enclosed inquiry slip

KENNETT TRUCKS

MADE TO ORDER • LAST LONGER

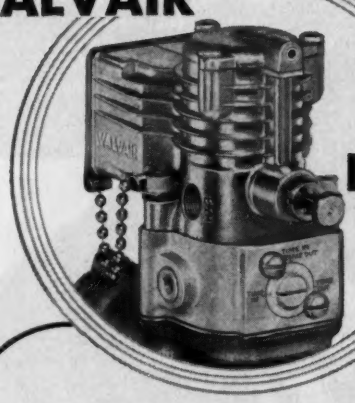
Vulcanized Fibre is the light-weight, high strength plastic that gives Kennett trucks the ability to "take it." Regular or heavy duty models designed to meet every materials handling need.

FREE BOOKLET ON TRUCKS! For full data on this versatile truck line write Department A-6, Wilmington 99, Delaware.

NVF
KENNETT DIVISION
NATIONAL VULCANIZED FIBRE COMPANY

For more details circle NED-536 F1 on enclosed inquiry slip

VALVAIR® air-operated TIME DELAY UNIT



Write for Bulletin SVA-3
Address: Bellows-Valvair
Akron 9, Ohio
Dept. NED-661

For direct or remote mounting on Speed King or Inline air valves. Times in, out, in and out. Delay from 0 to 30 seconds . . . more with accessory reservoir. Repeats within 10% on dry filtered air. Change function quickly with line pressure on valve, no disassembly.

8194

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-537 F1 on enclosed inquiry slip

HEAT BOUNCES BACK OFF ROOFS

protected by Tropical's

COOLERANT!

Bright, non-staining Coolerant, easily brushed or rolled on commercial or industrial roofs, deflects up to 70% of the sun's radiant heat. It reduces below-roof heat up to 26°—you can feel the difference AT ONCE! Reduces air-conditioning load. Prevents summer dry-out, adds years to roof life. Increases winter heating efficiency. Anyone can apply it.

FREE! Complete details sent at once. Beat the heat this summer with Coolerant. Write now!

REPAIR AND INSULATE Tropical Coolerant Fibrated, in one easy brush application, weather proofs and creates a bright heat reflecting surface. Get the facts.

TROPICAL PAINT COMPANY
1124-1236 W. 70th, Cleveland 2, Ohio
HEAVY-DUTY MAINTENANCE PAINTS SINCE 1883 • SUBSIDIARY OF PARKER RUST PROOF COMPANY

For more details circle NED-538 F1 on enclosed inquiry slip

STAMPED OR EMBOSSED

· TAG MAKERS ·

Make Your Own Complete Tags

1 MARKS
2 PIERCES
3 SHEARS

These Schmidt Tag Makers are built to produce your tags . . . embossed or stamped, any shape . . . any material . . . from coil stock. They automatically mark, pierce and shear tags in one operation. Steel type in drawer style chase permits quick changes of legend.

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IF IT'S WORTH MAKING, IT'S WORTH MARKING

GEO. T. SCHMIDT, INC.

Engraved Marking Tools • Nameplate Marking Equipment • Embossing Dies • Special and General Purpose Marking Machines

1800 Belle Plaine, Chicago 13, Illinois, Phone EA 7-0300

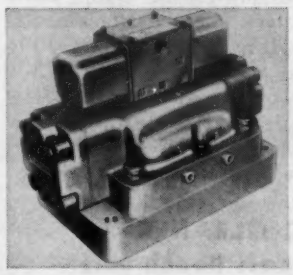
For more details circle NED-539 F1 on enclosed inquiry slip

DIAMOND GRINDING WHEELS
integral vanes help dissipate heat

Excessive heat buildup is minimized in D11V9 Turbogrind diamond grinding wheels by integral vanes which vortex laminar air into an effective coolant flow. Heat is dissipated both in the workpiece and in the bond. The redesigned thinner, vane-strengthened core cools faster, and wheel is self-dressing. Wheel life is increased as much as 15 per cent in wet, mist, or dry grinding. • **United States Diamond Wheel Co.**, 835 Illinois Ave., Aurora, Ill.

For more details circle NED-542 F1 on enclosed inquiry slip

FOUR-WAY VALVE
1½-in. unit rated to 5000 psi



Basic design features of company's ¾-in. valve line are employed in this 1½-in. four-way unit rated to 5000 psi. Valve is available as a thread, subplate, or flange-connected unit for operation by manual, mechanical, or electrical means. Five different spools provide for open, closed, or partially blocked flow path connections at flows up to 90 gpm. • **American Brake Shoe Co.**, Denison Engineering Div., 1160 Dublin Rd., Columbus 16, Ohio.

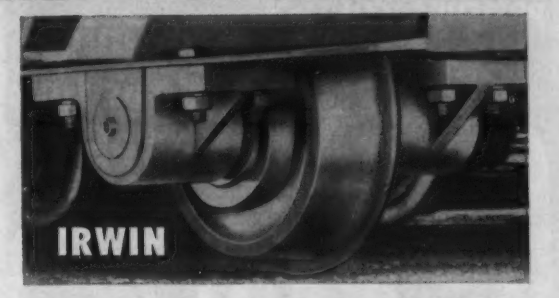
For more details circle NED-543 F1 on enclosed inquiry slip

CODED TAPE PUNCH
produces alpha-numerical tapes

Standard eight - channel, 1-in. wide tape is employed by the Model TP-1 tape punch to produce all decimal codes, plus S, T, U, W, X, Y, and Z alphabetic codes. End Line (carriage return) and Tape Feed codes are also produced on the standard model. A light indicates operation of any alphanumeric key; it is extinguished by the End Line code to indicate completion of an information block. Inclined surface keyboard is connected to the punch with a flexible plug-in cable, allowing freedom of component placement. It operates on 110 v ac. Special keyboards for any standard or special codes can be supplied. • **Carlton Controls Corp.**, 15 Sagamore Rd., Worcester 5, Mass.

For more details circle NED-544 F1 on enclosed inquiry slip

RED HOT and NEW!



PACKAGED WHEEL ASSEMBLIES

for Hi-Temperatures up to 1200°F

At last—Irwin has come up with a packaged wheel assembly for materials handling cars that enables them to work in high temperatures up to 1200°F.

These assemblies are designed primarily for use in heat treating applications and are available in standard wheel diameters ranging from 10-inches to 20-inches. Other sizes are available on request. Production units are made for 50 rpm, but higher speed assemblies can be furnished.

Irwin also manufactures a special high temperature series for applications operating at 700° and 1000° F maximum temperature.

Call or write for the complete line of Irwin Package Wheel Assembly literature and price lists.

IRWIN-SENSENICH CORP.
WHEEL AND CAR MANUFACTURERS SINCE 1900
P. O. BOX 311
IRWIN, PA.
UNderhill 3-5000

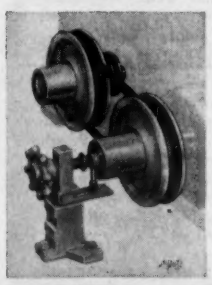
For more details circle NED-545 F1 on enclosed inquiry slip

SPEED SELECTOR VARIABLE SPEED DRIVES and SHEAVES

New ADJUSTABLE MOTOR BASE

A most efficient and accurate variable speed drive—¾ hp. to 10 hp. Low cost, easily installed, little or no maintenance. Check its many advantages!

Write for Bulletin No. 95



VARI-PITCH SHEAVES

can give your machines wide-range speed control on fixed centers—ratios up to 8:1—capacities from ¼ hp. to 10 hp. Used by many industries in a variety of applications. Rugged, efficient, economical, simple to use.

Write for Bulletin No. 80

SPEED SELECTOR INC.

P.O. BOX 312-N • CHAGRIN FALLS, OHIO

For more details circle NED-540 F1 on enclosed inquiry slip

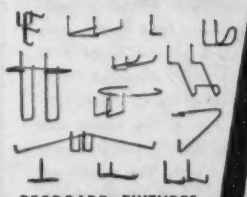
CHECK THE WIRE PARTS OR PRODUCTS YOU REQUIRE

We can offer you the finest facilities and most modern equipment available for fast, accurate, economical production of your wire parts or products . . . in a myriad of different shapes, forms and finishes. We also produce our own tools saving you more time and money!

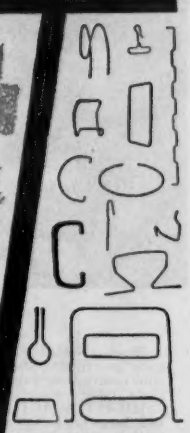
High-speed fully automatic machines fabricate, flatten or punch; thread, spot and butt weld wire forms and assemblies. Extensive plating and enameling equipment enables us to provide the following finishes: baked enamel, bright zinc, zinc chromate, bright nickel, nickel-chrome and brass plating . . . in both barrel and fully automatic processes.

Our engineering staff can offer recommendations and quotations from your sample, blueprint or drawing . . . without delay. Tell us your needs today.

WIRE DISPLAYS AND OTHER WELDED WIRE ASSEMBLIES

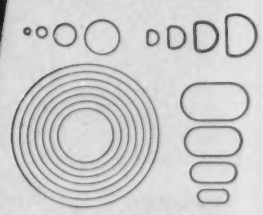


PEGBOARD FIXTURES

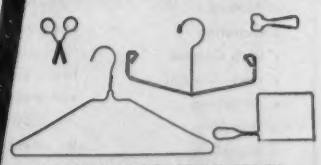


AUTOMATIC PRODUCTION

AUTOMATIC-AND-PRESS



AUTOMATIC RINGS, WELDED

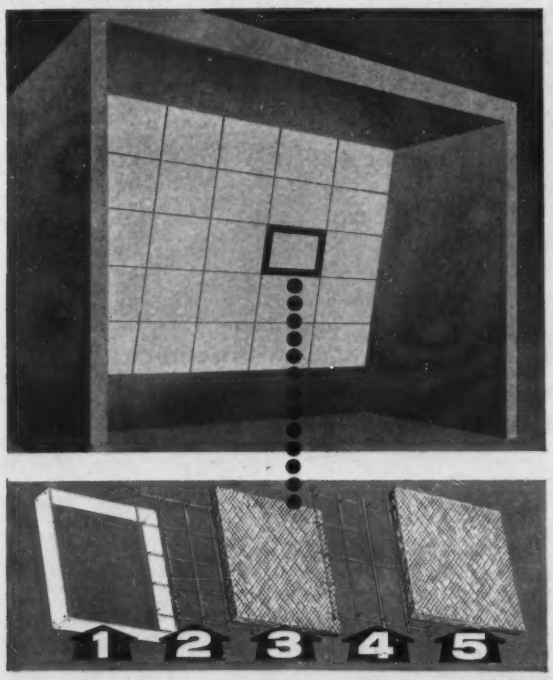


VOLUME PRODUCTION STOCK ITEMS—CUSTOM WIRE FORMS

SOMMER METALCRAFT CORPORATION

210 Poston Drive • Crawfordsville, Indiana

For more details circle NED-546 F1 on enclosed inquiry slip



A Paint Arrestor module consists of a Holding Frame (1), two Snap-in Grids (2 and 4), two Paint Arrestors (3 and 5). Loaded Paint Arrestors are simply replaced as necessary. And, they're also ideal for air-borne ink, mist, dye, frit, etc.

CONTROL PAINT OVERSPRAY the inexpensive, effective way!

The advantages of R P Paint Arrestors, the inexpensive, disposable air filters are many. Overspray solids are trapped before they reach the exhaust stack... to reduce fire hazards, damage to adjacent property... disagreeable and time-consuming maintenance work. Installation? —easy and fast. Maintenance? —remove loaded Paint Arrestor and replace a new one. Adaptability? —ideal for any type, any size booth, new or existing.

RP PAINT ARRESTORS

UL Listed

RP Products of Research

RESEARCH PRODUCTS Corporation

Dept. 32-F, MADISON 1, WISCONSIN

For more details circle NED-541 F1 on enclosed inquiry slip

MERCOID® PRESSURE CONTROL equipped with 316 Stainless Bourdon Tube

Series D-41, 243, 541

316 stainless steel welded Bourdon tube. ¼" (316) stainless steel pressure connection. Nickel plated mechanism. Outside adjustments. Calibrated dial. Hermetically sealed mercury contact.

Operating ranges: 30" vac.-75 psig; 10-100 psig; 30-400 psig; 75-800 psig. and 100-1000 psig.— with varying differentials and electrical capacity to meet your application.

WRITE FOR BULLETIN 019

THE MERCOID CORPORATION
4201 Belmont Ave., Chicago 41, Ill.

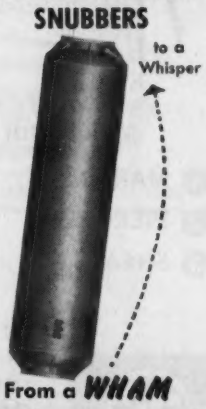
For more details circle NED-547 F1 on enclosed inquiry slip

ARC WELDERS
250 and 295-amp units offered

Heavy duty output with the economy of limited input is afforded by 250-amp Model 41 (pictured) and 295-amp Model 42 arc welders. Aside from amperage, features of both units are identical and include large rubber - tired wheels and carrying handle, easy reading amperage dial control, power-packed transformer, solid steel block-type shunt, and new polyester insulation. Units also have a cooling fan, a dial light, and a separately fused 110-v power outlet for power tools or trouble light. Both models can use plug-in battery charger attachments. Accessories provided are a wall receptacle, helmet, 10-ft power cord, 20-ft electrode cable and holder, 15-ft ground cable and clamp, welding rod and soldering carbon, and instruction manual. • **Twentieth Century Mfg. Co.**, 9250 Access Rd., Minneapolis, Minn.

For more details circle NED-550 F1 on enclosed inquiry slip

STOP THAT NOISE! from Air, Steam and other gas discharges with BURGESS-MANNING SNUBBERS



Stop that noise and profit through better neighbor and employee relations. Avoid compensation claims.

Burgess-Manning Snubbers are engineered to effectively correct your specific noise problem. There is no obligation for recommendations. Send us a description of your problem.

Industrial Silencer Division
BURGESS-MANNING COMPANY
The Sound-Engineering People 9227 Sovereign Row, Dallas 7, Texas
Sales Engineering Representatives World-Wide

For more details circle NED-554 F1 on enclosed inquiry slip

For Accuracy, High Capacity, Low Maintenance

Model 201-21 is Your BEST Regulator Buy

Mason-Neilan 200 Series steam reducing valves are designed to save you money through . . . ACCURACY — sensitive pilot operation insures rapid response to load requirements; unaffected by variations in inlet pressure.

HIGH CAPACITY — pilot operation and large flow passages provide large capacity, may permit use of a smaller valve, thus saving in initial cost.

LOW MAINTENANCE COST — ease of access to parts in pilot and main valve speeds up maintenance; cleaning is easy, reducing down-time.

Get all the details on the cost-saving features of Mason-Neilan 200 Series Reducing Valves. Ask your Industrial Distributor for catalog, or write.

Products that work for your profit

MASON-NEILAN
Division of Worthington Corporation
69 NAHATAN STREET, NORWOOD, MASSACHUSETTS

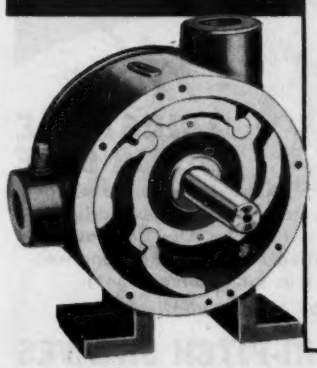
For more details circle NED-548 F1 on enclosed inquiry slip

SMALL ULTRASONIC CLEANER
is compact, low cost bench unit

Cleaning of small parts and intricate assemblies is handled by this Model 100 ultrasonic cleaner. It holds up to 1¼ qt of detergent, solvent, mild acid, or alkaline cleaner. Features include high frequency operation, simplified controls, and side-draining tank. Price is $119. • **Hermes Sonic Corp.**, 13-19 University Place, New York 3, N. Y.

For more details circle NED-551 F1 on enclosed inquiry slip

BIGGEST SCOOP in AIR PUMPS!



Leiman CURVED VANES SCOOP UP MORE AIR
- - provide high capacity with slower speeds and less wear

• Four curved vanes scoop up large volumes of air—provide 2 to 3 times more air space. Mounted on easy-action hinges to assure perfect contact with cylinder walls by centrifugal force. Vanes and cylinders made of durable cast iron (no composition). Hone themselves to hard, glassy smoothness to assure leak-proof seal and reduce frictional wear. Negligible wear is automatically taken up by rotating vanes.

Leiman Air Pumps maintain new-pump efficiency and fully-rated vacuum or pressure for the life of your equipment, with little or no maintenance or repair.

Fewer moving parts—no gaskets or packing—no composition vanes to wear out or renew. Pulseless airflow—every pump tested. Many models and sizes to meet your needs. Over 70 years' air engineering at your service on any design or application.

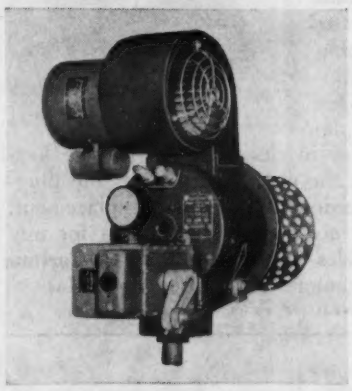
LEIMAN Rotary Positive AIR PUMPS
Vacuum to 29.9" Hg.
Pressure to 20 p.s.i.g.
Volume to 162 c.f.m.

WRITE FOR NEW CATALOG plus Application Book showing hookups.

LEIMAN BROS., INC.
167 Christie St., Newark 5, N.J.
Established 1889

For more details circle NED-555 F1 on enclosed inquiry slip

GAS BURNER
three sizes rated to 2.5 million Btu

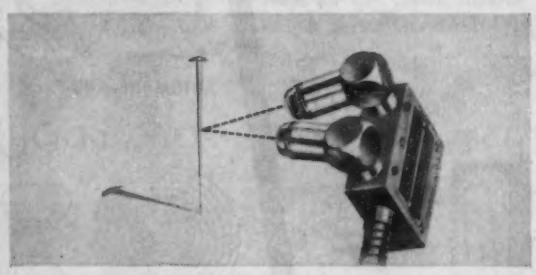


Mounted on and firing into an immersion tube, the Tube-O-Flame gas burner for solution heating tanks and industrial washing machines affords uniform heat dispersion over the entire length of a tube. Each compact unit includes a direct connected motor, blower, built-in air and gas control valves, and flame rod and spark electrode. Noise level is low. Installation requires only gas piping, and field adjustment is by a single screw control of a regulator spring. The 6, 8, and 10-in. sizes have respective capacities of 800,000, 1,500,000, and 2,500,000 Btu per hour and a turn-down range of 10 to 1. • **Maxon Premix Burner Co.**, 201 E. 18th St., Muncie, Ind.

For more details circle NED-552 F1 on enclosed inquiry slip

PIN-POINT Automation!

• MONITORING • REGISTRATION • CONTROL



Applications:
- Inspecting
- Sorting
- Counting
- Web Control
- Level Control
- Switching
- Diverting
- Signalling

and hundreds of other applications!

Here is automation as concentrated as the point of a pin. Miniaturized "electric-eyes" with built-in ruggedness designed for long trouble-free operation. Also available are dual beam pickups which eliminate timers and mechanical contacts for monitoring moving objects. The beams may be direct light cut-off, reflected or a combination of both. These units are small enough to fit into "tight" places.

Photomation Inc.
96 SOUTH WASHINGTON AVENUE, BERGENFIELD, NEW JERSEY

Write today for descriptive material

For more details circle NED-549 F1 on enclosed inquiry slip

HOIST-PULLER
handles loads up to 3000 lb

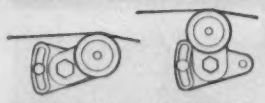
Only 1 lb of effort for each 20 lb of load moved is required to operate the 3000-lb capacity Power Pull hoist-puller. It has a safety factor of 2⅓ to 1 and weighs 7½ lb. Its handle is designed to bend at a certain load weight, thus serving as a safety factor to prevent overloading. Steel frame and parts are cadmium plated to prevent rust. Stress points are manganese bronze, and the cable is aircraft type. • **American Gage & Mfg. Co.**, 125 Bayard St., Dayton 1, Ohio.

For more details circle NED-553 F1 on enclosed inquiry slip

NEW TAKE UP FOR CHAIN AND BELT DRIVES

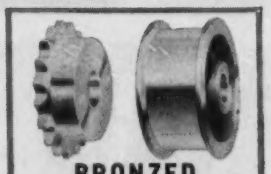
THE UNIVERSAL DRIVE TENSIONERS

Controlled tensioning eliminates shock loading through excessive chain vibration, and horsepower loss through belt slippage.



• ROTATING ARM ACTION FOR GREATER ADJUSTMENT
• FULL 360° POSITIONING

A low cost tensioner for single and multiple width drives that is more adaptable to machine frames. *See your Power Transmission Distributor* or write . . .

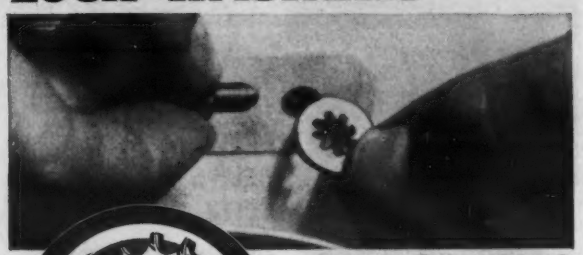


BRONZED BUSHED IDLERS
14 SIZES
AVAILABLE FROM STOCK

BREWER MACHINE & GEAR CO.
1441 N. 2nd St. St. Louis 6, Mo.

For more details circle NED-556 F1 on enclosed inquiry slip

TEST SHAKEPROOF® LIVE ACTION LOCK WASHERS



FREE SAMPLES

Test Shakeproof Live Action Lock Washers on your product. Prove to yourself how they lock your assemblies instantly, actually hold tighter, resist loosening as stress increases. Send for a Sample Kit . . . test "Live Action" . . . it never compromises your product's reputation.

WRITE FOR FREE SAMPLE KIT NOW!

SHAKEPROOF
"FASTENING HEADQUARTERS"®
DIVISION OF ILLINOIS TOOL WORKS
St. Charles Road, Elgin, Illinois

▲ For more details circle NED-557 F1 on enclosed inquiry slip ▲

NEW 30 PAGE BOOK

For the metal finishing industry

"When to Automate"

Send for your FREE copy of "When to Automate"

Fully describes and illustrates effective solutions for handling problems in:

ELECTROPLATING, ANODIZING, PICKLING AND CLEANING, BONDERIZING or . . . . .

any other processes requiring a sequence of washes, rinses and dips.

THE MEAKER COMPANY
MEAKER
SUBSIDIARY OF SEL-REX CORPORATION
NUTLEY 10, NEW JERSEY
Factories and offices—Chicago 50, Ill., Los Angeles, Calif., and Nutley 10, N. J.—Representatives in principal cities.

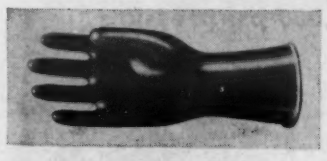
▲ For more details circle NED-558 F1 on enclosed inquiry slip ▲

REINFORCED PLASTIC PIPE
handles 100 psi at up to 250° F

Available in 10 and 20-ft lengths, various diameters with wall thicknesses from 1/4 to 5/8 in., and in glass fiber mat and cloth reinforced plastic constructions, Standard Duracor Pressure Pipe is suited for above or below ground installation. It withstands pressures to 100 psi and temperatures to 250° F. Standard Duracore plastic fittings such as elbows, T-joints, U-bends, and flange joints are readily field-installed with handy joining kits. • **Ceilcote Co.**, 4838 Ridge Rd., Cleveland 9, Ohio.

▲ For more details circle NED-560 F1 on enclosed inquiry slip ▲

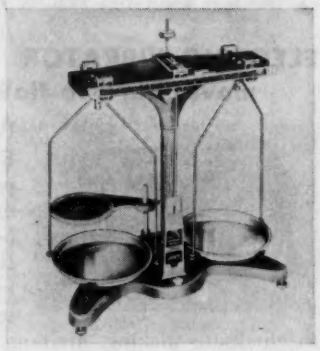
NEOPRENE GLOVES
have curved fingers for comfort



Work involving contact with oils, greases, petroleum solvents, caustics, or other toxic solutions is potential application for Wil-Gard neoprene industrial gloves. Available in 88-Smooth and 88-Firmhold finishes, they will not deteriorate from age or exposure to sunlight. Gloves are free of allergens that can irritate sensitive skin, and they have curved-finger styling for comfort and flexibility. Medium-heavy weight gloves are made in 11-in. lengths in sizes 7 to 11. • **Wilson Rubber Co.**, Industrial Div., 1200 Garfield Ave., S.W., Canton 6, Ohio.

▲ For more details circle NED-561 F1 on enclosed inquiry slip ▲

LABORATORY BALANCE
has 2-kg capacity, 50-mg accuracy



Suited for laboratory, research, control, and other applications, Model 1600 overhead beam type balance combines 2-kg capacity with 50-mg sensitivity. An adjustable platform with suspension hook will handle specific gravity determinations. The 6-in. diameter, 3/4-in. deep pans have wide bows for maximum utility. Features include adjustable feet and spirit level, cast aluminum box end beam, case hardened knife edges, zero adjust balance nuts, and relief-etched steel beam with center-indicating sliding poise for readings from 0 to 10 grams with 0.1-gram divisions. Price is $42.50. • **Ohaus Scale Corp.**, 1050 Commerce Ave., Union, N. J.

▲ For more details circle NED-562 F1 on enclosed inquiry slip ▲

REPAIR FOR YOUR B&D TOOLS

Check the Yellow Pages under "Tools-Electric" for the location of the nearest Black & Decker factory service branch or authorized service station.

Free tool inspection when requested • Genuine B&D parts used • Factory-trained technicians • Standard B&D Guarantee at completion of recommended repairs • Fast service, reasonable cost, always.

Or write for address of nearest of more than 50 branches and service stations to: THE BLACK & DECKER MFG. Co., Dept. 36-S Towson 4, Md.

Black & Decker®

QUALITY TOOL SERVICE

▲ For more details circle NED-563 F1 on enclosed inquiry slip ▲

CONTROL

New! A rugged line of versatile foot switches from Cutler-Hammer

These new foot switches can be stepped on, kneed, elbowed, palmed. You design them in—they'll improve operations. Same high quality in these foot switches you find in all Cutler-Hammer motor control. You get versatile operation, too. The heavy duty, side treadle switch has three interchangeable operating arrangements that can be changed easily just by changing position of a nylon cam.

Find out about the heavy-duty side treadle switch, standard-duty switch, palm switch and heavy-duty treadle switch. Send for Pub. LO-91-L251.

WHAT'S NEW? ASK . . .

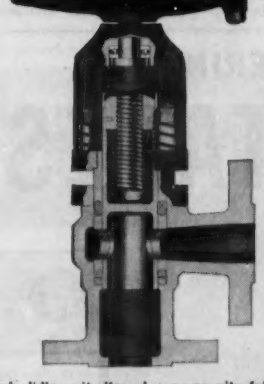
CUTLER-HAMMER

Cutler-Hammer, Inc., Milwaukee, Wisconsin • Division: Airborne Instruments Laboratory • Subsidiary: Cutler-Hammer International, C. A. • Associates: Canadian Cutler-Hammer, Ltd.; Cutler-Hammer, Mexicana, S. A.

▲ For more details circle NED-559 F1 on enclosed inquiry slip ▲

OVER 16,000 STEAM PLANT ENGINEERS

CHOOSE AND USE YARWAY SEATLESS BLOW-OFF VALVES



Balanced sliding nitralloy plunger permits full, free discharge; drop-tight shut-off. No seat to score, wear, clog or leak. Flanged or screwed ends, angle or straightway designs available.

HERE'S WHY:

Savings in maintenance costs
Freedom from boiler outages

• These are the reasons—proved in thousands of installations—that Yarway Seatless has become "standard" on low to medium pressure boilers. Write for Yarway Bulletin B-427.

YARNALL-WARING COMPANY
131 Mermaid Ave.
Philadelphia 18, Pa.

▲ For more details circle NED-564 F1 on enclosed inquiry slip ▲

New Stock Molded Knobs

AVAILABLE WITH OR WITHOUT SKIRTS

4 Standard Sizes

Meet MIL-P-14 Specs

MODEL RB-1250-SK Illustrated

Molded of thermosetting phenolic or urea materials. Available in 4 standard sizes with nickel plated brass inserts for ¼" or ⅜" diameter shafts. Aluminum decorative inserts or skirts, etched and filled as desired . . . various anodized finishes, plain or radially spun. Write for new catalog illustrating Rogan's complete line of stock molded knobs.

ROGAN BROTHERS, Inc.
8001 N. MONTICELLO • SKOKIE, ILL.
Specializing In Stock Molded Knobs Since 1939

FREE
NEW BEAR BALANCING CATALOG

New Loose-Leaf Design — 32 pages packed with information and technical data to help you select the RIGHT Balancer for the job!

Just off the press! Bear's new, complete Industrial Balancing Catalog No. 160. One of the most complete directories on static and dy-namic balancing machines available anywhere. Shows models balancing any moving part from a few ounces to tons, production line or maintenance balancing.

Contents:
- Static and dy-namic unbalance explained
- Principles of operation
- Forces created by unbalance
- How to choose and order balancers
- Production line balancing machines
- Maintenance type balancers
- Variety of applications
- Specially built balancers

BEAR®

Now the Most Complete Line of Balancing Machines for PRODUCTION LINE and MAINTENANCE BALANCING
WRITE TODAY! BEAR MFG. CO., Dept. N-2, Rock Island, Illinois
▲ For more details circle NED-565 F1 on enclosed inquiry slip ▲

ENGINEERING
-70°F TAPES +250°F

Stronger — lasts longer!
- Pressure sensitive heat and cold resistant
- Resist acids, alkalies, moisture, etc.
- Ideal for oxidation, radiation, testing, laboratory, electronics, etc.
- Available in plain or custom preprinted labels.

Write for complete literature and the name of your nearest TIME representative.

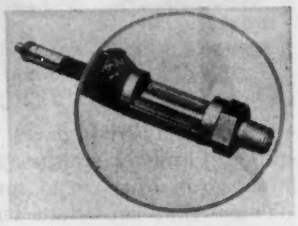
PROFESSIONAL TAPE CO., INC.
359C Burlington Ave. • Riverside, Ill.
▲ For more details circle NED-566 F1 on enclosed inquiry slip ▲

HEATING ELEMENTS
for laboratory crucible furnaces

Latest Crusilite heating element is this Type DM hollow silicon carbide tube with up to 3 in. OD, designed with a double spiral hot zone and with both electrical connections at one end. It is suited for use in laboratory crucible furnaces. It can be mounted vertically and small crucibles raised or lowered into it, or it may be used horizontally with connections at the rear, leaving free access to the tube mouth. Element can also be lowered over the work if necessary. • **Morganite Inc.**, 3302 48th Ave., Long Island City 1, N. Y.

▲ For more details circle NED-567 F1 on enclosed inquiry slip ▲

SIX-PLY HYDRAULIC HOSE
withstands 56,000 psi pressure



Temperatures from −40 to 200° F are withstood by Super-Spiral six-ply wire wrap reinforced hydraulic hose. It has an oil-resistant neoprene inner tube covered by an open textile braid reinforcement, interplay friction layers which cover six plies of spirally wrapped heavy wire reinforcement, and a tough synthetic rubber outside cover that resists sun, weather, oil, and abrasion. Burst pressures range from 50,000 to 56,000 psi. Hose is made in ⅜ to 1½-in. ID sizes, and is offered with pressed-on, clamp, and flanged head type couplings. • **Anchor Coupling Co.**, Dept. PR-10, 342 N. Fourth St., Libertyville, Ill.

▲ For more details circle NED-568 F1 on enclosed inquiry slip ▲

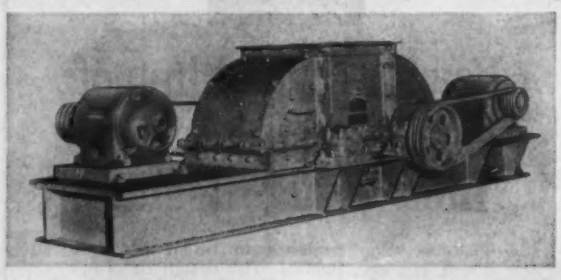
ELECTRIC VIBRATOR
moves hard-to-flow materials, parts

Portable electric Vibra Pak vibrator keeps small parts and granular bulk materials moving freely in hoppers, bins, and chutes. It is also used for bulk feeding, parts jogging, screening, packing, and to eliminate sticking, arching, and bridging. Plugged into a 110-v ac outlet, it initiates a gentle pulsating motion at a rate of 3600 vibrations per minute. Two series, each with three models, are offered. One series has a dual range. Smallest unit measures 5⅜ x 2¼ x 1½ in. • **Automatic Feeder Co.**, 4752 W. Washington Blvd., Chicago 44, Ill.

▲ For more details circle NED-569 F1 on enclosed inquiry slip ▲

TWIN ROTOR CRUSHER
wet and sticky materials will not clog equipment, made in two sizes

Multiplicity of blows from the whirling hammers on twin rotors of the Impactor crusher break materials to the desired fineness by impact only. Wet, sticky,

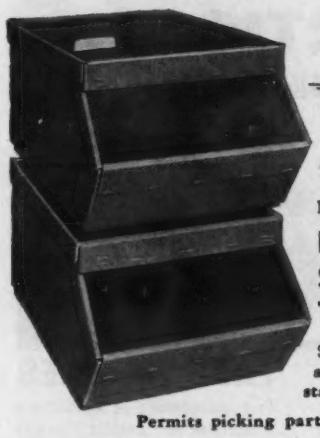


and other types of materials are crushed without plugging and caking the equipment. Gas torches played into the spaces between the wear liners and frame prevent sticking of wet materials to the hot liner surfaces.

Crusher is made in two sizes for rated capacities to 100 tons per hour when used as a secondary crusher in a closed circuit to produce a 100 per cent 8-mesh product. Use as a primary crusher is also possible. Power requirements are as low as 25 hp per rotor. Unit does not vibrate when running and does not require heavy foundations. Maximum feed size is 8 in. • **Bath Iron Works Corp.**, Pennsylvania Crusher Div., 323 S. Matlack St., West Chester, Pa.

▲ For more details circle NED-570 F1 on enclosed inquiry slip ▲

I'm a DOUBLE DUTY DANDY!



Low cost, light weight
HOPPER-FRONT SELF-STACKING TOTE BOXES

Strong shoulders front and back allow positive stacking without shelving.

Permits picking parts without disturbing stack.

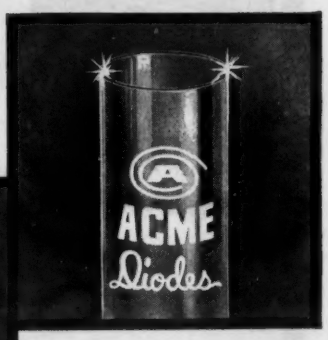
YET each box can be used as a TOTE if desired.

Ideal multi-use in processing, storing, assembly. Made of "Chem-Board," our chemically rigidized extra heavy corrugated board. Stock No. J-91 shown is 16" wide, 18" long, 10" deep. 5 other stock sizes made.

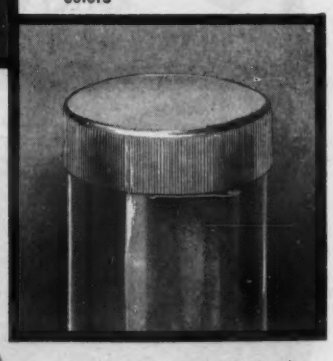
CONVOY, INC.
CANTON 6, OHIO
P. O. Station B, Box 216-N
GReenwood 7-4569
▲ For more details circle NED-571 F1 on enclosed inquiry slip ▲

LERMER Adds Important NEW Features to *flexible acetate containers*

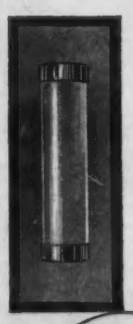
• Clear, flexible extruded containers • Full width straight opening • No turned-in top • Easy to fill and empty • Streamlined • Seamless • Can be printed up to 4 colors



• Reinforced molded bottoms • Firm wide base—Prevents tipping over • Available in colors



• Molded polypropylene closures for uniform fit • Knurled for easy grip • Engineered to hold tight—Easy to remove and replace • Closures available in assorted colors • May be hot stamped in contrasting color with trade mark or other desired copy



• Containers available in diameters from ¼" through 1¼" • Any lengths up to 7" — Longer lengths on special order • Can be furnished in long lengths open at both ends. You can make your own containers by cutting to your sizes. We furnish closures.

Now is the time to consider the flexibility, the protection, the beauty, the features and economy of Lermer flexible plastic containers. Ideal for many products. **Write today for samples.**

ALSO A COMPLETE LINE OF RIGID MOLDED CONTAINERS.

LERMER PLASTICS, INC.
514 South Avenue, Garwood, N. J.

PIONEERS AND SPECIALISTS IN PLASTIC CONTAINERS SINCE 1919
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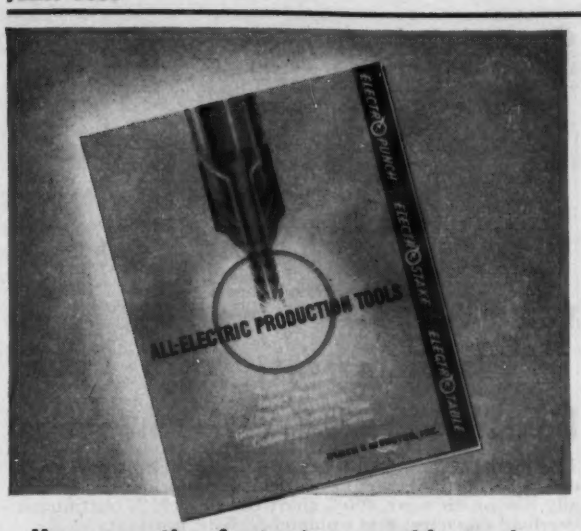

Here are the fastest assembly tools in their class . . . introduced to you in this FREE catalog.

If you want to speed up production and cut costs in a wide variety of assembly operations requiring staking, crimping, swaging, riveting, peening as well as marking and punching, write for this new, complete Black & Webster catalog, describing the most modern, fastest all-electric assembly tools in their class. Write:

BLACK & WEBSTER, INC.
570 PLEASANT ST., DEPT. 1, WATERTOWN 72, MASS.

For more details circle NED-573 F1 on enclosed inquiry slip

• Centerless Ground to extreme accuracy. Special new-type Equipment, assures concentric chamfered or formed ends—no cut-off burrs.

Dowel—Straight—Countersunk—Angle and Spherical Ends
.020" to .1875" Diam.
.125" to 2" Length

Precise Specifications
Accurately met. If requested on order, a surface analysis tape, showing surface in micro-inch measurements, will be furnished. Tape magnifies 39,370 times.

Small orders or volume production to your exact requirements and material specifications.

Quality Precision Work!
Prompt Deliveries!
Prices you will like!
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Phone: ENdicott 1-3412

For more details circle NED-574 F1 on enclosed inquiry slip

free information

STEPLESS VARIABLE SPEED

This 16-page catalog gives you all you need to know about fhp variable speed problems. It also describes over 30 basic models of fractional horsepower variable speed drives which are available with or without motors, gearheads and reverse.

Send for Your Free Copy Now!

The **ZERO-MAX**® *Company*
2855 Harriet Ave. So.
Minneapolis 8, Minnesota
Taylor 7-5521

For more details circle NED-575 F1 on enclosed inquiry slip

LIQUID PROPORTIONER
plastic unit has no moving parts

Accurate metering and measuring of water soluble materials in water is function of Auto Medic liquid proportioner, molded of Tenite II to preclude corrosion and rusting. Unit has intricate design, yet no moving parts, and will handle up to 512 gal per filling. Visual operation is possible. Use of plastics contributes to its low cost and makes it usable as a portable unit or as a permanently installed part of a water line. The 13-in. high proportioner weighs 12 lb. • **Amos-Thompson Corp.**, Amos Molded Plastics Div., Edinburg, Ind.

For more details circle NED-576 F1 on enclosed inquiry slip

MAGNETIC PICKUP ASSORTMENT
for low cost experimental work

Subminiature, miniature, standard output, and high output pickups, together with an AN connector and detailed operating and application data, comprises this low cost experimental magnetic pickup assortment. Offered in a plastic box, kit provides items which aid the user in solving speed measurement and control problems. Pickups are self-generating input transducers that generate voltage/frequency from mechanical motion (without contact) in proportion to the speed of metal objects interrupting their magnetic fields. Introductory price is $64.50. • **Electro Products Laboratories, Inc.**, 4500 N. Ravenswood Ave., Chicago 40, Ill.

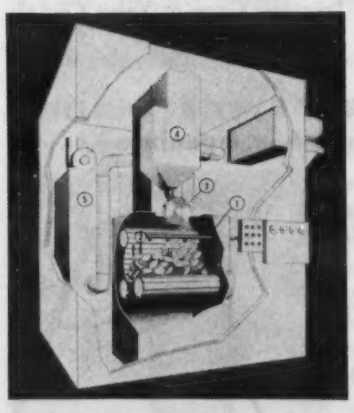
For more details circle NED-577 F1 on enclosed inquiry slip

PVC PLASTIC SHEET
withstands heat up to 215° F

Both normal and high impact grades of Hi-Temp PVC plastic sheet are cut with an ordinary saw and joined by welding or cementing. The polyvinyl dichloride sheet withstands heat up to 215° F, including boiling water, is light in weight, and is self-extinguishing when exposed to flame. Chemical resistance is maintained throughout its wide temperature range; mechanical strength is high while carrying hot liquids. Sheets are made in 4 x 8-ft sizes and in thicknesses from 1/16 to 1 in. for use in ducts and tanks handling strong acids and hot corrosive liquids. • **Seiberling Rubber Co.**, Plastics Div., Newcomerstown, Ohio.

For more details circle NED-578 F1 on enclosed inquiry slip

RUBBER DEFLASHING MACHINE
flash is frozen, then knocked off by centrifugally hurled particles



Wheelabrator impact-type rubber deflashing machine adapts readily to most molded rubber parts, particularly those with flashing not more than 0.005 in. thick. Parts are introduced into the 2-cu ft work chamber and liquid CO_2 is sprayed over them to freeze the flash, but not the parts themselves. The brittle flash is then broken off by centrifugally hurled tiny spherical steel pellets.

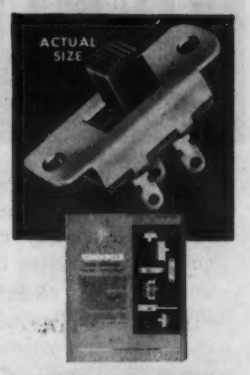
An endless, slow-moving steel slat conveyor gently cascades the batch so that all part surfaces are exposed to the impacting media, hurled at 350 lb per minute by a wheel unit. Machine and pellet air-wash system are both ventilated by a cloth-type Dustube dust collector, and entire machine is enclosed within an insulated, vapor-sealed housing.

In the picture, numbers designate the CO_2 system (1), the endless parts conveyor (2), media throwing wheel (3), media cycling and cleaning system (4), and the dust collection system (5). • **Wheelabrator Corp.**, 500 S. Byrkit St., Mishawaka, Ind.

For more details circle NED-579 F1 on enclosed inquiry slip

6 AMP.
U. L. RATED
Slide Switch

Truly inexpensive . . . only 1⅜"l by 17/32"w . . . new Stackpole Type SS-36-1 handles a full 6-amps at 125 volts ac. Use it on appliances, power tools, instruments — wherever a heavy-duty SPDT or SPST switch is called for. 9 attractive trigger knob colors to match your styling needs.



The Most Complete Line

Dependable, low-cost Stackpole Slide Switches are made in over 15 basic types—0.5-6 amp ratings, 1-4 positions, 1-3 poles, maintained or momentary contact, pushbutton-operated, etc. Printed wiring terminals, shields, colored triggers optional.

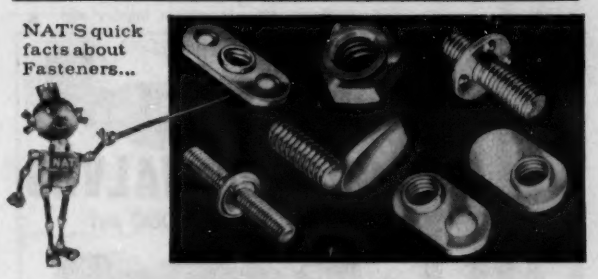
NEW! SLIDE SWITCH BULLETIN contains details on the complete Stackpole line. Write today!

STACKPOLE

Electronic Components Division STACKPOLE CARBON COMPANY, St. Marys, Pa.

For more details circle NED-580 F1 on enclosed inquiry slip

NAT'S quick facts about Fasteners...



Welding Fasteners
...the little things that make a big difference

Welding fasteners put threads into the most unlikely places, and make light of the weightiest assembly problems...where hands and wrenches can't get in, for instance, or where contours and dimensions make regular fastening methods impossible. They can improve design and quality; increase production efficiency and cut costs.

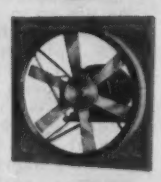
We stock the most common types. We design new ones to meet special needs. Ask us about *your* applications.

The National Screw & Mfg. Company
Cleveland 4, Ohio
Los Angeles 22, Calif.

For more details circle NED-581 F1 on enclosed inquiry slip

Which fan mounting best fits your job?

RING-MOUNTED — Standard propellers or Special Low-Noise or High-Pressure blade designs. Sizes from 12" to 60". Direct-connected construction as shown or in special belt-drive, pulley-drive or extension shaft construction.



PANEL-MOUNTED — Easily installed steel panel mountings available for fans in 24", 28", 32", 36", 44" and 48" diameters.

DUCT-MOUNTED — Prefabricated fan-and-duct section units available in sizes from 12" to 60"; belt-drive or direct-connected.

All Hartzell propellers are aluminum-alloy castings, ground and polished to a precision finish. Exclusive Hartzell curved orifice air-seal ring, used on all ring and panel mounted models, eliminates back-flow of air and increases fan efficiency by 10% or more. For details see your nearby Hartzell field engineer or write for copies of Bulletins A-109 and A-114.

Hartzell PROPELLER FAN COMPANY
Division of Castle Hills Corp. • PIQUA, OHIO
A Member of AMCA

For more details circle NED-582 F1 on enclosed inquiry slip

The Tool Users' Private Tool Room

KENNEDY TOOL CHESTS

Kennedy Tool Chests protect valuable tools, keep them clean and always in handy reach. Great time savers. Extra heavy duty—built to last. Pay for themselves in the long run.

Choose from MANY MODELS or Combinations

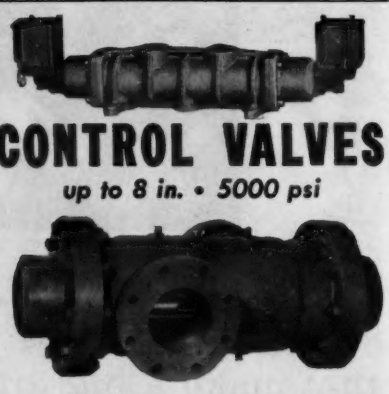
KM29 Write for catalog and name of the nearest Kennedy Dealer.

KENNEDY MANUFACTURING CO. VAN WERT 10, OHIO

For more details circle NED-583 F1 on enclosed inquiry slip

BIG CONTROL VALVES

up to 8 in. • 5000 psi



Need large flow capacities? Hunt builds valves in sizes up to 8 in., with air flow ratings *of more than 32,000 cfm* @ 100 psi pressure drop!

Choose from sizes ranging from ⅛ through 8 in.; 2, 3 and 4-way types; solenoid, remote-pilot or mechanically actuated; with a variety of optional mountings and features. For air, oil, water, soluble oil and water service; pressures to 5000 psi hyd.

For more information, write for Bulletin 603. Address Hunt Valve Company, Salem, Ohio, Dept. NED-661.

HUNT QUICK-AS-WINK® AIR AND HYDRAULIC VALVES

HUNT VALVE COMPANY • DIVISION OF IDEC • SALEM, OHIO

3026

For more details circle NED-584 F1 on enclosed inquiry slip

Find Out How PRECISION BALANCING CAN PAY OFF FOR YOU

Precision balancing of your rotating machinery can increase bearing life up to 100% . . . increase seal life up to 50% . . . horsepower up to 10% . . . provide many other proven benefits. Stewart-Warner produces a full line of lowest-cost, highest-precision industrial balancers . . . portable and permanently installed models. To find the one just right for your work and your budget . . .

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STEWART-WARNER CORPORATION
INDUSTRIAL BALANCER DEPARTMENT
Dept. CK-61, 1850 Diversey Pkwy., Chicago 14, Illinois

For more details circle NED-585 F1 on enclosed inquiry slip

SCALDPROOF SHOWER VALVE
maintains constant temperature

Shower water temperature is maintained constant within 1° F by this Tempera scaldproof valve which consists of a bronze body, perforated sleeve, a hex body nut, and a perforated piston. Once water temperature is adjusted to individual's preference, changing water pressure causes the piston to move back and forth, decreasing or increasing the hot or cold water flow to maintain a constant temperature. Valve is installed in any position in the supply lines before the shower mixing valves and where line robbing can occur. • **Tempera Corp.**, 4035 N. Interstate Ave., Portland 17, Oreg.

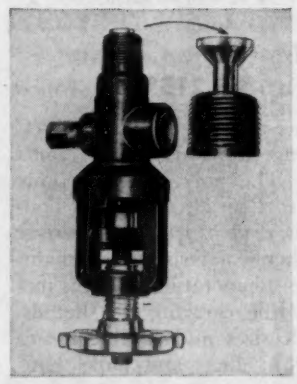
For more details circle NED-586 F1 on enclosed inquiry slip

FOOT SWITCH
on-off type handles 10 amp, 115 v

Control of motor driven and other electrical equipment is afforded by this Model 5-1020 foot switch which has contacts rated 10 amp on 115 v ac. It is housed in a 4¼ x 3 x 1-in. metal case with antiskid pad on bottom to prevent slipping. It has a 6-ft approved cord with a series plug socket, and lists for $4.95. • **Lectromatic Devices, Inc.**, 3347 W. Addison St., Chicago 18, Ill.

For more details circle NED-587 F1 on enclosed inquiry slip

DRAIN & SAMPLING VALVE
reciprocating stem prevents galling



Completely self-draining, the No. 23 drain and sampling valve prevents liquid from remaining in the area between the liquid container and the valve seat when the valve is closed. The valve seat is inside the wall of the pipe or vessel, and the valve stem seats on the outside of the valve body. The stem which reciprocates to prevent galling is unaffected by the temperature or nature of the liquid being handled. Yoke and tailpiece extension are welded to the main body to make an integral unit with 1-in. NPT tank connection, ¾-in. female drain connection, and ½-in. plugged "steaming out" or purge connection. Standard materials are rustproofed carbon steel body and hardened stainless steel stem. Other connection sizes and materials are available. • **Jerguson Gage & Valve Co.**, 80 Adams St., Burlington, Mass.

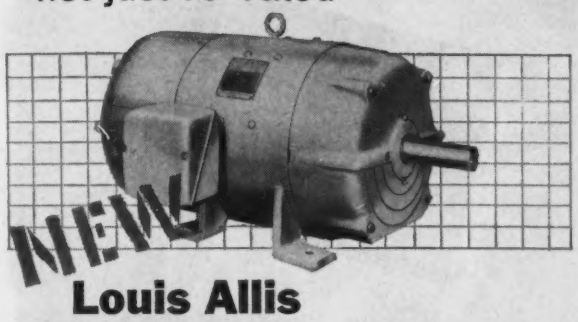
For more details circle NED-588 F1 on enclosed inquiry slip

SUBMERSIBLE PUMP
passes through 6-in. openings

Hermetically sealed motor of the Slim Jim electric submersible pump is cooled by the water it pumps. Built-in automatic reset overload protection permits leaving it unattended, as it operates automatically when water accumulates and shuts off when dry. The 1½-in. pump is always primed and requires no suction hose. Capacity is 86 gpm at 15-ft head and 20 gpm at 35 ft. An adaptor for connecting pumps in series for higher heads is attached in 2 or 3 min. Slim design allows use in 6-in. diameter openings or pipes. Models for 115 and 230 v have a ¾-hp motor and brass pump parts, stainless steel motor shaft, and heavy steel strainer base. • **Speed King Mfg. Co.**, 615 W. Spring St., Columbus 16, Ohio.

For more details circle NED-589 F1 on enclosed inquiry slip

Completely redesigned —not just re-rated



Louis Allis FLEXITORQ® D-C Motors

The Louis Allis Flexitorq is a brand-new high-performance d-c motor. It offers you improved commutation; exceptionally low brush wear; 400% short-time and 15% continuous overload capacity; and unmatched field flexibility.

Improved armature and brush design provides 40% faster acceleration, plus much better deceleration, reversing, and speed changing. Class B insulation rates the new d-c motors at 60°C rise for continuous operation—and resists heat, moisture, acids, alkalies, etc.

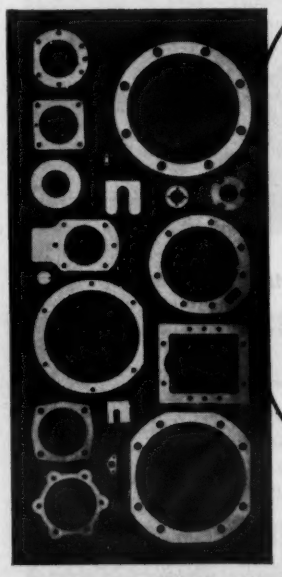
Check the Flexitorq. It's the most improved d-c motor for constant and adjustable speed applications. Sizes from 1 to 400 hp, with choice of enclosures and modifications. Write for Bulletins 3150 and 3200 to The Louis Allis Co., 436 E. Stewart St., Milwaukee 1, Wisconsin.

LOUIS ALLIS

DC-216

For more details circle NED-590 F1 on enclosed inquiry slip

EASY WAY TO CUT COSTS on GASKETS, WASHERS and SHIMS



A wide variety of dies accumulated over more than 50 years of service to industry, enables Chicago-Wilcox to supply many of your gasket, shim and washer needs without a die charge.

Whether you need just a few items or large quantities, these stock dies make it easy for you to save money and get faster delivery. Available in metallic, non-metallic and plastics to meet your production requirements.

Find out about WIL-PAK PLASTIC SHIM STOCK that identifies thickness by both color and gauge number. Write for Bulletin No. 570.

Write for Stock List and Prices.

CHICAGO-WILCOX Mfg. Co.
7713 South Avalon Avenue, Chicago 19, Illinois

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■ Here's a ruggedly built dock bumper that minimizes dock, truck and freight damage by absorbing the impact of trucks backing into docks. Easily installed on wooden or concrete docks, they are the only bumpers made from resilient reversible rubber reinforced fabric that give you double service life. The bumpers will remain resilient even when frozen . . . require no covering and will not flatten or pack.

Write for detailed literature and prices.

BUMPERS, INC.
Subsidiary of Rowe Methods, Inc.
2534-D Detroit Ave. • Cleveland 13, O.

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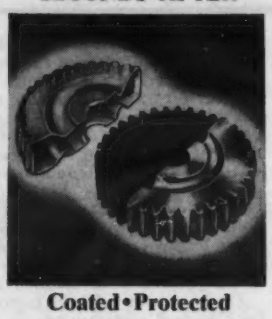
HOT MELT PLASTIC COATINGS
for GEARS • TOOLS • PRECISION PARTS

BEFORE SECONDS AFTER

Dip



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DIP-PAK Protect vital, expensive tools, gears, and machined parts during storage and shipping with Fidelity's durable, transparent plastic coatings. Merely melt coating briquette, dip parts, cool. Lasts indefinitely. Tough; abrasive, moisture, rust resistant. To remove, slit, peel. Re-melt, re-use coating. Economical, practical, rapid. Protect parts; save money.

Write for Bulletins and Free Samples
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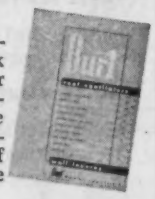
Burt

ROOF VENTILATORS
WALL LOUVERS

SEND FOR FREE DATA BOOK

BURT'S complete ventilator line includes a type and size to put air to work most efficiently and economically for your specialized needs. BURT'S engineering skill and know-how from more than half a century designing and building ventilators is your assurance of satisfaction. Your inquiry will receive prompt and qualified attention.



FAN & GRAVITY VENTILATORS LOUVERS • SHEET METAL SPECIALTIES

The Burt Manufacturing Company
50 E. South St., Akron 11, Ohio

MEMBER POWER FAN MANUFACTURERS ASSOCIATION

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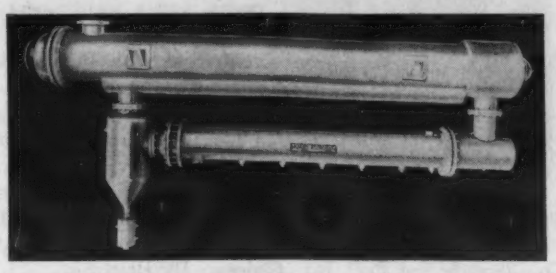
HEAT EXCHANGER
increases usable volume of air

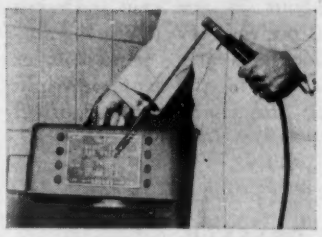
Economat heat exchanger combines an aftercooler and cyclone separator with a feature that restores one-third of the usable volume of compressed air



that would otherwise be lost in cooling. Air passing through an aftercooler decreases in volume as water and oil vapors are removed, but this unit uses the original heat of compression to reheat the air. This restores one-third of the volume at 50 psi and develops a dewpoint as low as 20° F. • **R. P. Adams Co.**, 327 E. Park Dr., Buffalo 17, N. Y.

▲ For more details circle NED-595 F1 on enclosed inquiry slip ▲

PORTABLE ARC WELDER
range is 25 to 125 amp in 12 stages



Ample capacity for most maintenance and utility jobs is provided by this Bren/Weld Model 125W portable arc welder that weighs only 45 lb. It will weld up to ½-in. plate with its 25 to 125 - amp range. Twelve heat stages are readily selected. It operates on 115 to 230 v ac, and delivers 75 v, open circuit, for easy arc starting. It is usable for either metallic or carbon arc processes, and is priced at $125. • **Bren/Weld Sales, Inc.**, 5114 Third Ave., Brooklyn, 20, N. Y.

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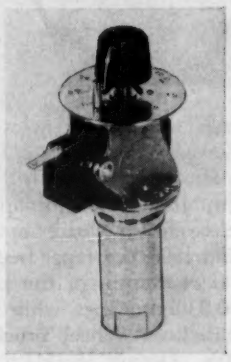
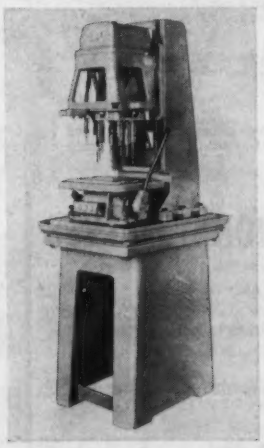
PRESSURE-VACUUM CONTROL
several adjustable ranges offered



Made without an enclosure for direct incorporation into sterilizers, centrifuges, welding equipment, panelboards, and process control equipment, the Type H41 pressure-vacuum control combines high sensitivity, small size, and low cost. The calibrated unit has several adjustable ranges within limits of 30 in. Hg vacuum and 500 psi. On-off differentials range from 1.5 in. Hg to 10 psi. Switch action includes normally-open, normally-closed, and double-throw, all suitable for ambients up to 180° F. Standard electrical ratings of the 13-oz unit are 15 and 20 amp, 115/230 v ac. • **United Electric Controls Co.**, Dept. N, 85 School St., Watertown 72, Mass.

▲ For more details circle NED-597 F1 on enclosed inquiry slip ▲

DRILLING-TAPPING MACHINE
has 6 x 8¼-in. work area



Designed primarily for small hole drilling and tapping of small parts, the Dril-King drilling and tapping machine is equipped with 12 spindle drivers. Center distances down to ⅜ in. are possible. Closer center distances are realized with variations of the basic spindles. Standard model has a work area of 6 x 8¼ in. A vertical feed work table brings the work up to the head. Unit is powered by a heavy duty motor through a V-belt drive with four speed changes. Basic machine has a manually controlled work table and is priced at about $1700. Optional equipment includes air feeds for automatic operation and cluster plates for converting the machine to fixed multi-spindle operation. • **Jarvis Corp.**, Machine Tool & Attachments Div., Stack Street, Middletown, Conn.

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COLD IMPACT EXTRUSIONS

Typical Extrusions

In steel, brass, aluminum and stainless steel.
Material savings, through moving rather than removing metal, and higher strength gained through cold working result in substantial economies in high production items, such as, bearing races, fittings, cylinders, shells, etc.

JACOBSON NUT MFG. CORP.
Kenilworth, New Jersey

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Available in Stainless Steel, Brass, Aluminum and Steel
JACOBSON NUT MFG. CORP.
KENILWORTH, N.J.

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Features information NEVER AVAILABLE BEFORE in slide chart form

For the first time, with slide chart ease, convenience, and accuracy, you can put your finger quickly on a host of facts such as speeds and feeds for machining, drilling and threading stainless steels.

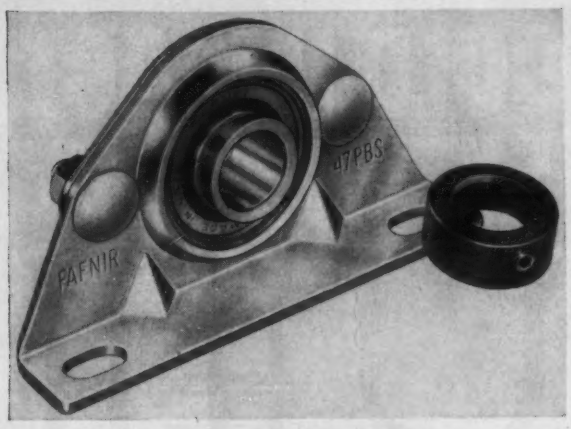
Second side is an up-to-date version of Carpenter's earlier issue Slide Chart. Contains all you need know to select the proper stainless for drawing, forging, heading, welding, roll forming, etc. Get your copy of this pocket-size reference today!

THE CARPENTER STEEL COMPANY
118 W. Bern St., Reading, Pa.

Please send me a copy of your new Carpenter Stainless Slide Chart. (Please print)

Company Name_____
Individual Name_____ Title_____
Address_____
City_____ Zone____ State____

▲ For more details circle NED-601 F1 on enclosed inquiry slip ▲



FAFNIR
PBS BALL BEARING PILLOW BLOCK

Low-cost answer to light duty requirements.

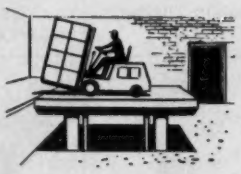
The heavy-gauge pressed steel housing is sturdy, compact, and zinc-plated for rust-resistance. Unit is equipped with Fafnir's permanently prelubricated RA type precision ball bearing with Plya-Seals. Fafnir-originated self-locking collar simplifies installation. Bolted construction makes bearing removal or inspection easy. Units are now available from your Authorized Fafnir Distributor. Call him for details. Or write The Fafnir Bearing Company, New Britain, Conn.

FAFNIR BALL BEARINGS

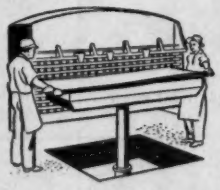
▲ For more details circle NED-602 F1 on enclosed inquiry slip ▲

Lift it the low-cost way
WITH DEPENDABLE HYDRAULIC POWER

Load trucks from floor level . . . no dock needed

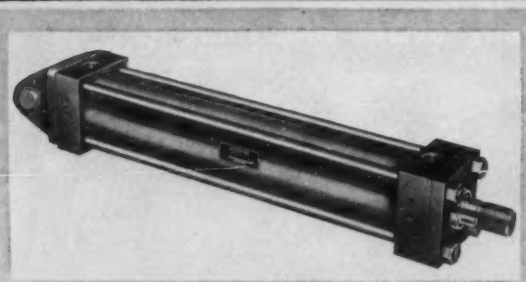

Move traffic from one floor level to another

Rotary Levelator Lifts, using dependable, economical oil-hydraulic power, have countless applications in modern industry. Capacities to 100,000 lbs. Standard models and special lifts engineered to your specifications. Write for catalog.


Feed machines, perform other industrial lifting jobs

Rotary® Levelator® Lifts
ROTARY LIFT COMPANY
Division of the Dover Corporation
1090 Kentucky, Memphis 2, Tenn. • Chatham, Ont.

▲ For more details circle NED-603 F1 on enclosed inquiry slip ▲



HYDRAULIC CYLINDERS

PROMPT DELIVERY—New, separate plant facility insures prompt, individual attention.

COMPETITIVE PRICE—Backed by unmatched sales, service and regional spare parts stocks too!

WIDE CHOICE OF OPTIONS—Mountings, rod end threads, wrench flats, port positions and thread connections.

STANDARD AND SPECIAL DESIGNS—Standard bore sizes range from 1½" to 8" with either standard or heavy duty rods; specials to suit your needs.

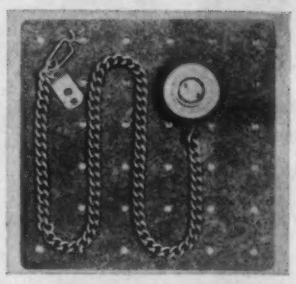
GET MORE DETAILS IN BULLETIN 60-68

9628

VICKERS
VICKERS INCORPORATED
DIVISION OF SPERRY RAND CORPORATION
Machinery Hydraulics Division
ADMINISTRATIVE and ENGINEERING CENTER
Department 1400 • Detroit 32, Michigan

▲ For more details circle NED-604 F1 on enclosed inquiry slip ▲

ANTI-PILFERAGE DEVICE
attaches to flat surfaces, pegboard



Unauthorized removal and pilferage of power tools, electronic components, and a wide variety of other equipment is prevented by the Peg Lock anti-pilferage device. It is attached to a pegboard by a lock and to the tool or equipment by an 18-in. chain. Longer chains can be specified. Device can also be attached to any flat surface by two screws. • **Columbia Wire & Supply Co.**, 2850 Irving Park Rd., Chicago 18, Ill.

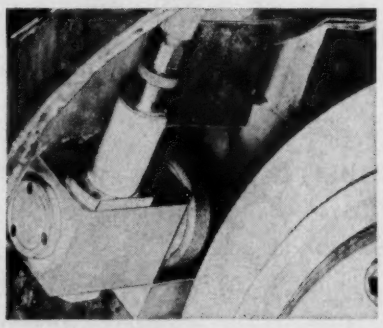
▲ For more details circle NED-605 F1 on enclosed inquiry slip ▲

ROLLER CHAIN
redesigned for extra wear life

Suited for use on hardened sprockets, Bowman roller chain has been redesigned to realize an increase in ultimate tensile strength or actual breaking load of about 58 per cent. Design change also resulted in 40 per cent fewer wearing surfaces, a one-third reduction in wearing parts, 39 per cent greater bearing area, and 66 per cent more pin capacity. The 2-in. pitch size chain can be turned over for extra wear life. • **Jeffrey Mfg. Co.**, 852-99 N. Fourth St., Columbus 16, Ohio.

▲ For more details circle NED-606 F1 on enclosed inquiry slip ▲

GRINDING WHEEL DRESSER
contributes to smooth parts finish



Advantages of rotary motion and traverse dressing of grinding wheels are incorporated in the Tru-Grit rotary diamond-set dressing wheel. The dressing wheel is powered independently and traverses at regular intervals across the grinding wheel face. It makes it possible to hold workpiece finish within a microfinish range without sacrificing other tolerance limitations. In one application it maintained a workpiece finish within a 30 to 55-microinch rms range, and held the taper-free straight surface and geometrical roundness of the part within 0.0002-in. It made 10,930 dressings while over 1,300,000 parts were produced. • **Wheel Trueing Tool Co.**, 3200 W. Davison Ave., Detroit 38, Mich.

▲ For more details circle NED-607 F1 on enclosed inquiry slip ▲

*Q.E.L. Solenoid operated—8 gpm to 3000 psi.
*Q.E.L. Solenoid controlled, pilot operated—nominal ratings 30-300 gpm to 3000 psi.
*Vickers exclusive Quiet-Extended-Life Solenoids—greatly increased reliability at standard price.
New miniature directional valves—single and double solenoid—rated to 2 gpm, 1000 psi.

IMPROVED DIRECTIONAL VALVES

INCREASED CAPACITY—Up 50 to 500%.

***LONGER SOLENOID LIFE**—4 to 5 times larger than ordinary air-cooled solenoids.

MOST COMPREHENSIVE LINE—Complete range of sizes and spool types.

WRITE FOR BULLETIN DG-1

9629

VICKERS
VICKERS INCORPORATED
DIVISION OF SPERRY RAND CORPORATION
Machinery Hydraulics Division
ADMINISTRATIVE and ENGINEERING CENTER
Department 1400 • Detroit 32, Michigan

▲ For more details circle NED-608 F1 on enclosed inquiry slip ▲

YOU CAN *Automate* WITH NATIONAL RIVETERS

Automated fastening does not mean thousands of dollars of expense for multi-headed riveting equipment.

Over 90% of the riveting machines in use today are low cost, single riveters, easily converted to new products and new jobs. National has a complete line—including multi-headed units where the job warrants.

National semi-tubular and tubular rivets and riveting equipment is flexible, rugged, low cost. Its use speeds production, often improves quality of the finished product and slashes labor costs.

Find out today. There is no obligation for National's prompt answers to your fastening problems. Send a blue print or a sample of your fastening job.

NATIONAL RIVET & MFG. CO.
211 Main St.
Waupun, Wis.

NATIONAL RIVETS
TUBULAR, SPLIT, SOLID ALL METALS

▲ For more details circle NED-609 F1 on enclosed inquiry slip ▲

Hardness Readings in 2 seconds!

Webster PORTABLE **Hardness Testers** FOR NON-FERROUS METALS

TWO LOW-COST MODELS differing in sensitivity for rapidly testing hardness of aluminum, brass, copper, etc. No training required; one hand operation. Hardness readings in 2 seconds anywhere in shop. Can be correlated to standard hardness scales. Quick reading dial. Special anvil design tests all shapes: sheets, extrusions, tubing, strip stock. Capacity ¼". Simple, rugged design, easy maintenance.

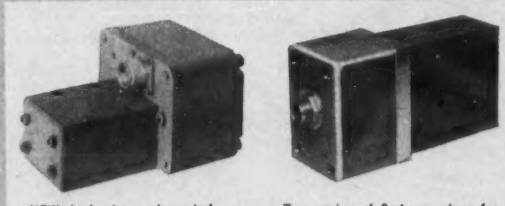
MODEL B Direct hardness readings on all aluminum alloys.

MODEL B-75 Direct hardness readings on copper, brass, etc.

Other models available

WEBSTER INSTRUMENTS, INC. Dept. N, 11856 Mississippi Ave. Los Angeles 25, California

▲ For more details circle NED-610 F1 on enclosed inquiry slip ▲


NEW single stage valve rated 0-3 gpm
Two series of 2-stage valves for 0-17 gpm, 0-37 gpm

INDUSTRIAL SERVO VALVES

THREE SERIES—Cover complete range of industrial needs.

RUGGED, DIRT TOLERANT—Specifically designed for industrial conditions of dirt, vibration and temperature.

SIMPLE MAINTENANCE—Can be serviced in the field.

ASSURED COMPATIBILITY—Designed for use with Vickers complete hydraulic line—your assurance of top performance and reliability.

NEED MORE DATA? ASK FOR BULLETINS 59-74, 61-79

9630

VICKERS
VICKERS INCORPORATED
DIVISION OF SPERRY RAND CORPORATION
Machinery Hydraulics Division
ADMINISTRATIVE and ENGINEERING CENTER
Department 1400 • Detroit 32, Michigan

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LOW COST INCINERATOR

BURNS
TRASH
SAFELY
OUTDOORS

Only $110.00 COMPLETE

NO INSTALLATION COST

Burn wrappings, sweepings, papers, cartons, packing, rags, food waste, safely outdoors. Scientific draft control ends fire hazards of flying ash, sparks, burning blowing papers. Burns damp, green, or dry refuse to fine ash in any weather. Minimizes smoke and smell, needs no watching. Safe for use 10' from buildings. Stands 52" high x 35" square at base. 10 bushel burning capacity. Complete with hinged hood, ash pan base and grate and cleanout door. Made of aluminized steel (molten aluminum bonded to steel) with replaceable inner steel panel construction for long life. Shipped assembled—weight 170 lbs. Only $110.00 F.O.B. Cleveland. Satisfaction guaranteed. Other sizes available.

Write for **FREE** *Folder*

ALSTO COMPANY
Dept. 14 4007 Detroit Ave. Cleveland 13, Ohio

▲ For more details circle NED-612 F1 on enclosed inquiry slip ▲

INDUSTRIAL RETAINING RING PRICES REDUCED UP TO 51%

Series 1000, Series 3000 and Series 3100 Industrial Retaining Ring prices—in quantities up to 100,000—have been greatly reduced.

Thanks to modern, efficient production methods you can now get these Industrial Retaining Rings—either pre-stacked or bulk packed—at new, low prices . . . and pay less for pre-stacked rings than you have been paying for bulk packed. Reductions apply to standard materials and finishes.

Send for your new, revised IRR Price List—61N.

IRR *Originators of modern retaining ring dispensing*

INDUSTRIAL RETAINING RING COMPANY
57 Cordier Street, Irvington 11, New Jersey

▲ For more details circle NED-613 F1 on enclosed inquiry slip ▲

SELENIUM PHOTOVOLTAIC CELLS encased for adverse atmosphere use

Encased or encapsulated for use in adverse atmospheric conditions, these photovoltaic cells incorporate a selenium cell that features linear output throughout a wide range. High sensitivity begins at low light levels. The 1¼-in. diameter, glass-front Model 857 (lower left) has tinned silver construction and is offered hermetically or nonhermetically sealed. Model 859 (upper left) is housed in a 2-in. electro-tinned brass case, filled with helium, and hermetically sealed. Model 9971 (lower right), in round or rectangular shapes, is encapsulated in clear plastic cases and has threaded or plug-in terminals. Model 596 (upper right) is a 2 5/16-in. Bakelite unit for favorable atmospheric conditions is interchangeable in existing apparatus. • **Daystrom, Inc.,** Weston Instruments Div., 614 Frelinghuysen Ave., Newark 12, N. J.

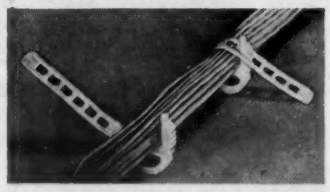
▲ For more details circle NED-615 F1 on enclosed inquiry slip ▲

PARTS CABINET stocks tube and fitting tool parts

All component parts needed to make up a wide variety of sturdy, fast-working swedging and flaring tools, reamers, tube cutters, bending springs, pinch-off tools, and kits are contained in this Wimco 750 U-Pac-It Warehouser. Because many of the tool parts are interchangeable, a minimum of stock is required. • **Wilson Mfg. Co.,** 836 S. Barksdale, Memphis 4, Tenn.

▲ For more details circle NED-616 F1 on enclosed inquiry slip ▲

NYLON CABLE CLAMP adjusts to ⅜ to ¾-in. bundles

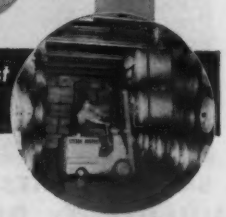


Tab-Loc nylon cable clamps withstand vibration tests up to 20 g at 2000 cps and 50 impact shock tests from 5 through 120 g without failure. They require no tools for clamping and hanging bundles or single cable diameters from ⅜ to ¾ in. Solid nylon affords maximum dielectric strength and corrosion resistance. Clamps are supplied in natural color. • **Weckesser Co.,** Dept. ND-5, 5701 Northwest Highway, Chicago 46, Ill.

▲ For more details circle NED-617 F1 on enclosed inquiry slip ▲

101 PALTIER WAYS TO STORE MORE IN LESS SPACE

PALTIER Racks—*the best quality for the least cost!*



Portable Racks

PALTIER manufactures the only rack system with all 12 of the most necessary quality engineered features and "Built Like a Skyscraper."

Pallet Racks

FREE... The STORAGE RACK STORY. Write for your copy.

The PALTIER CORPORATION
1705 Kentucky Street • Michigan City, Indiana
Paltiersmen in All Principal Cities

▲ For more details circle NED-618 F1 on enclosed inquiry slip ▲

ALBION'S NEW ALaTHANE* WHEELS

* POLYURETHANE ESTOMER

WEAR LIKE STEEL... PROTECT LIKE RUBBER

Truly a *wonder wheel* for all rugged industrial applications where high capacity and floor protection is a "must". Albion's amazing new ALaTHANE wheels are conservatively rated for 5 times the service life of rubber and they're extremely resistant to abrasives, have load capacities of steel wheels, resist a permanent "set" under static loads and are impervious to practically all chemicals, solvents, etc.

Better yet... ALaTHANE wheels—or complete casters, are immediately available from stock in 6" to 12" wheel diameters with clean, machine-faced steel hubs and roller bearings.

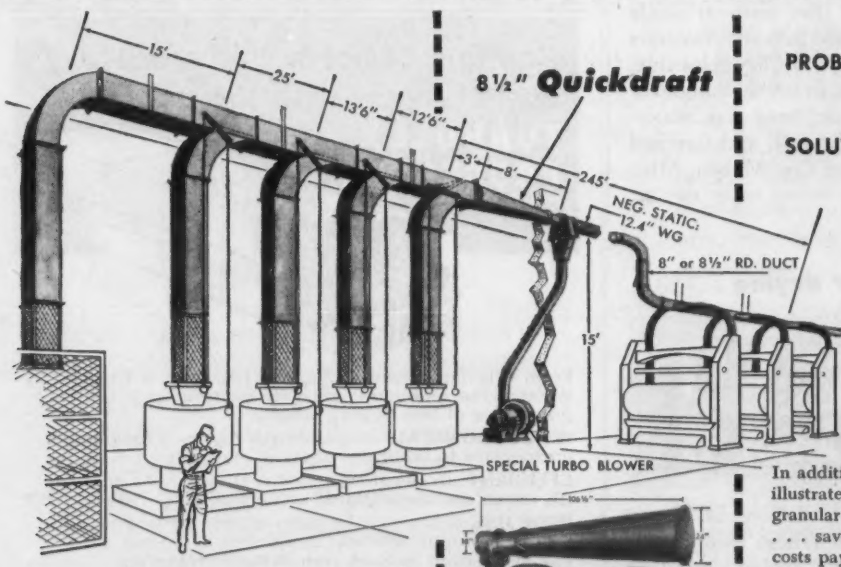
So—if you want the quiet resiliency and protection of rubber, the capacity and lasting durability of steel, plus a new wheel economy . . . you'd better specify Albion's ALaTHANE.

Remember . . . ALaTHANE *for both wheels and complete casters!*

Write today for your free copy of the new ALaTHANE wheel and caster folder.

ALBION INDUSTRIES, inc.
ALBION, MICHIGAN

▲ For more details circle NED-619 F1 on enclosed inquiry slip ▲



VELOCITY: 7,016 FPM.
NEG. STATIC, WITH DUCT CLOSED: 19.2" WG

Schematic of an actual installation in which 3" and 4" paper trim of 140 lb. basis weight (Ream 25 x 38) is continuously removed and conveyed to one of four hydro-pulpers or to screen container by an 8½" *Quickdraft* unit.

Patents 2,722,372 and 2,855,874 and Patents Pending plus Exclusive Foreign Patents.

Quickdraft units with extremely high negative pressures are available in 4½" to 30" diameters in plastic-coated steel, No. 316 Stainless Steel or rigid plastics for corrosion resistance.

PROBLEM: High speed removal and disposal of paper trim

SOLUTION: *Quickdraft* VACUUM SYSTEM

Quickdraft high-pressure vacuum systems have proven extremely successful, efficient and economical in solving materials handling problems. In addition to paper or plastic film trim, the system illustrated could convey any bulk, powdered or granular material that can be moved by air. And . . . savings in labor, down-time and replacement costs pay for *Quickdraft* units in 12 to 24 months!

Quickdraft units also are used for industrial exhaust systems and to increase combustion efficiency in all types of heating plants.

For recommendations on materials handling, please furnish sample of material, distance material to be moved and sketch of proposed installation.

Quickdraft CORPORATION
P. O. BOX 87L
CANTON 1, OHIO
9012-QD

▲ For more details circle NED-614 F1 on enclosed inquiry slip ▲

SAVE on PARTS MOLDED of

NYLON • DELRIN* • LUCITE*

STOCK PARTS . . . Make your selection from hundreds of different gears, rollers, bushings, glides, etc. Your "special" part may be in our stock — adaptable to your needs. Investigate and save money.

Write for Catalog

SPECIAL PARTS . . . Our patented, low-cost tooling, especially geared to molding these materials to your specifications, gives you exceptionally low unit cost. Send print or sample for quotation.

We welcome short runs.

nylomatic CORP.

266 WEST TRENTON AVE. • MORRISVILLE, PA.

*Du Pont Registered Trademarks.

For more details circle NED-620 F1 on enclosed inquiry slip

glass skylight troubles?

INSTALL WASCO SKYDOMES!

This half-century old warehouse was plagued with leaky, broken glass skylights requiring frequent repair and replacement. Constant film of dirt and grime blocked out daylight.

Maintenance costs disappeared! Weather-proof, shatter-proof, all-acrylic Wasco Skydomes shun dirt, admit more daylight. Built-in condensation drainage channel assures leakproof installation.

Glare-free Wasco daylighting opens up dim interior areas, cuts electricity costs, permits fuller use of floor space. Old skylights need not always be ripped out, can often be covered with Wasco Skydomes. Special mountings for easy, inexpensive installation. Wide variety of sizes, shapes, densities.

FOR INFORMATION, contact Wasco. We'll gladly furnish the name of a qualified applications engineer.

WASCO SKYDOMES

WASCO PRODUCTS DEPARTMENT
AMERICAN CYANAMID COMPANY
5 BAY STATE RD., CAMBRIDGE 38, MASS.

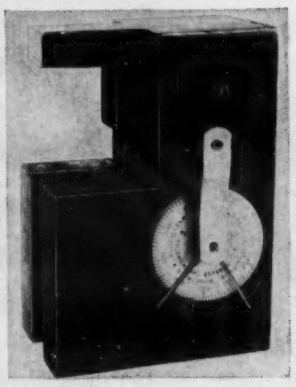
For more details circle NED-621 F1 on enclosed inquiry slip

AUTOMATIC DISPENSING GUN measures any flowable material

Easy to mount and connect into any production operation, the Model AMV-482 automatic-measuring material-flow gun delivers "shots" adjustable from 0 to 4 cc. It is designed for rapid application of oils, corrosive materials, mastics, adhesives, cavity-filling plastics, and other flowable materials. The metering piston is actuated by material pressures from 50 to 2500 psi (determined by material viscosity). A valve automatically cycles the gun which dispenses accurately measured shots of material with exact placement. Any excess of material is drawn back into the gun at the end of each delivery. Gun can be used singly or in multiple banks with normal air line pressures (60 to 70 psi). • **Pyles Industries, Inc.,** 20855 Telegraph Rd., Detroit 41, Mich.

For more details circle NED-622 F1 on enclosed inquiry slip

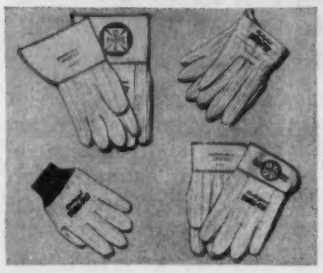
SPOT SURFACE THERMOMETER has range of 0 to 540° C



Compact, easy to read, and made of stainless steel, this spot surface thermometer is merely placed on the surface of dies, hot plates, furnace skin, pipelines, or billets. Surface temperature is indicated within 1 min in a range of 0 to 540° C. Optional Alnico magnet clip facilitates mounting the thermometer on any ferrous surface. A set of auxiliary pointers permits recording of minimum and maximum temperatures. Other ranges from 0 to 270° F up to 1000° F are offered. Prices are $3 for the thermometer only, $4 with the magnet clip, and $6.75 with the clip and pointers. • **Pacific Transducer Corp.,** 11836 W. Pico Blvd., Los Angeles 64, Calif.

For more details circle NED-623 F1 on enclosed inquiry slip

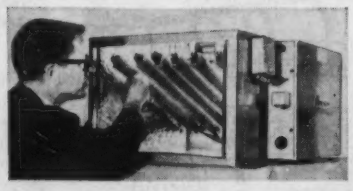
FABRIC WORK GLOVES are two-ply warp canvas type



Plied yarns, made by twisting two or more single cotton strands in opposite directions, are used in Dura-Ply canvas work gloves. This process locks the fibers as well as the strands, making for uniformity and strength. Tests on the two-ply warp gloves show that they outwear single yarn types by three to one. Fabric actually becomes tighter woven during laundering and dry cleaning. Gloves are offered in eight styles in either single or double thicknesses and in knit wrist, band top, waterproof safety cuff, waterproof gauntlet cuff, and starched gauntlet cuff styles. • **Monte Glove Co.,** Maben, Miss.

For more details circle NED-624 F1 on enclosed inquiry slip

ELECTRIC FURNACE installs in air duct for drying



Installed in the air duct, this electric furnace supplements heat in heat pump systems and long heat runs of any type. It is offered in 10, 15, and 20-kw sizes which deliver 34,150 to 68,330 Btu, and can be used as a reheat unit in dehumidifying systems and to provide drying or curing heat. Unit has a baked enamel finished, insulated cabinet suitable for downstream installation in air conditioning systems. Heat elements are black chrome sheathed for protection against corrosive atmospheres. It is available for 440 and 230-v, three-phase and 230-v two-wire systems, and can be controlled by a 24-v room or duct thermostat. • **Northwest Foundry & Furnace Co., Wesco Furnace Div.,** 2345 S. E. Gladstone St., Portland 2, Oreg.

For more details circle NED-625 F1 on enclosed inquiry slip

FREE CABINETS! Included at no extra cost with each complete or sectional order of the new DUNDICK DeLuxe Precision Pins

THE PIN WITH A MILLION USES

• Core Pins • Gages
• Perforators • Set-up Pins
• 2" Long

$1.25 per pin in lots of 10 or more in your choice of sizes.

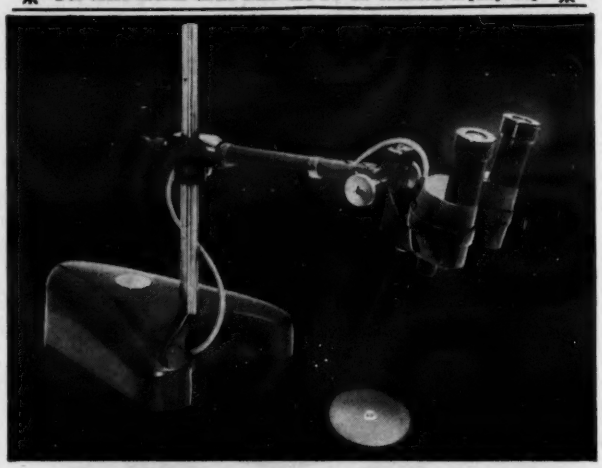
721 sizes—from .030 to .750

GUARANTEED ACCURACY within a tolerance of plus or minus fifty millionths

• Each cabinet complete with lacquered hardwood block. Contains properly identified and sized holes to hold pins.
• Heavy-duty all-steel construction.
• Cabinets interlock to form compact unit.

DUNDICK TOOL WORKS, INC. 3410 West 31st St. Chicago 23, Illinois

For more details circle NED-626 F1 on enclosed inquiry slip



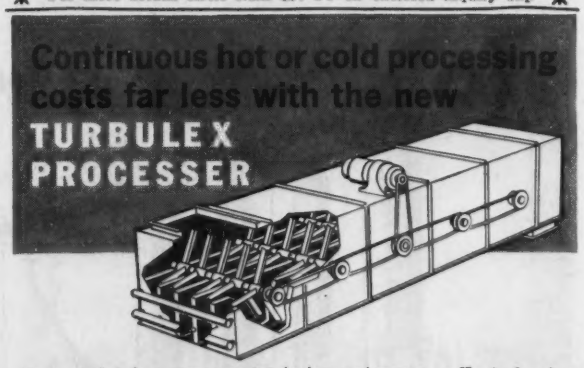
STERIMAG

Crystal sharp stereoscopic image
Built-in focusable light source
Long 7" working distance — wide field
Stable base with universally adjustable mounting
Fixed magnification 10X and 20X models each **$165**

COOKE TROUGHTON & SIMMS INCORPORATED
91 WAITE STREET, MALDEN 48, MASSACHUSETTS
IN CANADA: 77 GRENVILLE STREET, TORONTO

For more details circle NED-627 F1 on enclosed inquiry slip

Continuous hot or cold processing costs far less with the new TURBULEX PROCESSER



From calcining gypsum to drying polymers, a Turbulex by Western Precipitation is ideal for **continuous** hot or cold processing of free-flowing solids.

It's ECONOMICAL. Simple design makes it easy and inexpensive to fabricate, operate, maintain.

EFFICIENT. In calcining, thermal efficiency as much as **2½ times** the conventional kettle process — 78% vs 30%!

WIDE USE of the new Turbulex is possible wherever low cost, continuous, efficient processing is needed . . . in industries such as **food, non-metallic minerals, chemical, petrochemical** and **non-ferrous metallurgical.**

WANT DETAILS? For literature, write Western Precipitation, 1000 West 9th St., Los Angeles 54, Calif. (In Canada, write 8285 Mountain Sights Ave., Montreal, P.Q.)

WESTERN PRECIPITATION
DIVISION OF JOY MANUFACTURING COMPANY

For more details circle NED-628 F1 on enclosed inquiry slip

CF&I REALOCK FENCE

...trespassers hate it!

This strong, long-lasting fence is your best protection against losses caused by pilferage, vandalism and arson. Available in either top-grade galvanized steel or aluminum, with or without barbed wire tops. Corrosion-resistance helps maintain good appearance for years to come. Write for Catalog F-915.

▲ For more details circle NED-629 F1 on enclosed inquiry slip ▲

CF&I BLACK SATIN WIRE

can cut your production costs

The powdery oxide finish on CF&I Black Satin Oil Tempered Wire prevents "flake-off" and constant readjustment of your set-ups. It also has the uniformity that reduces "stop-and-go" operations. Available in extra-long lengths to reduce scrap loss. Color-tagged for easy inventory control and reordering. Write for Catalog W-201.

▲ For more details circle NED-630 F1 on enclosed inquiry slip ▲

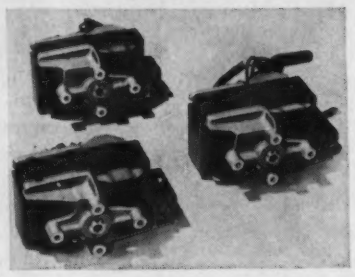
CF&I-WICKWIRE SPRINGS *are designed*

to solve problems

The easiest way to solve a spring problem is to turn it over to CF&I. Springs are supplied in a wide range of sizes and types—extension, torsion, flat and special. If the standard models won't do the job, CF&I's Spring Design and Development Department will be happy to design prototype springs or formed wires to meet your requirements. Write for Catalog S-500.

▲ For more details circle NED-631 F1 on enclosed inquiry slip ▲

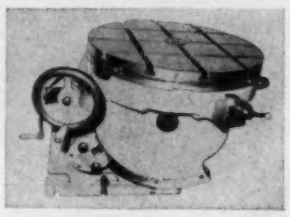
ELECTRIC VIBRATORY MOTORS offered as versatile power sources



Motion is imparted to packaging and assembling machinery, mixers and separators, or food and woodworking machinery by attaching it to the die-cast armature plate of these electric vibratory motors. Of the type used in reciprocating sanders, jig saws, and vibrating feeders, they are available as power sources for these and other vibratory power applications. Largest of three models available is rated 4 amp full load input at 115 v, 60 cycles ac. It delivers 14,400 strokes of ¼-in. length per minute. Units have no wear surfaces or conventional bearings. • Syncro Corp., Oxford, Mich.

▲ For more details circle NED-632 F1 on enclosed inquiry slip ▲

ROTARY TABLE & POSITIONER in 24, 32, and 48-in. sizes



Three different working surface diameters of 24, 32, and 48 in. are available in the Speedmaster rotary table and positioning unit. Table is calibrated in minutes for tilting to 90 degrees and in degrees for rotary vernier readings to 10 min. Center hole is hardened and ground with a No. 9 B & S Taper. Both manual and motorized units are offered. • S & S Machinery Co., 140 53rd St., Brooklyn 32, N. Y.

▲ For more details circle NED-633 F1 on enclosed inquiry slip ▲

DOUBLE BASCULE BRIDGE spans sunken plant railroad spur

Each section of this double bascule crossover bridge is hinged to the factory floor on each side of a sunken railroad spur track or other irregularity in a floor surface. Each section of illustrated installation is 8 ft wide and 9 ft long, and together they form an 18-ft long shortcut for fork trucks and other plant traffic. An oil-hydraulic cylinder lifts the sections to a near-vertical position when not in use. Action is synchronized so that one section lowers first and rests horizontally on folding legs. The other section lowers to a supporting ledge on the first section. Control is from either of two pushbutton stations on each side of the track. • Globe Hoist Co., E. Mermaid Lane at Queen Street, Philadelphia 18, Pa.

▲ For more details circle NED-634 F1 on enclosed inquiry slip ▲

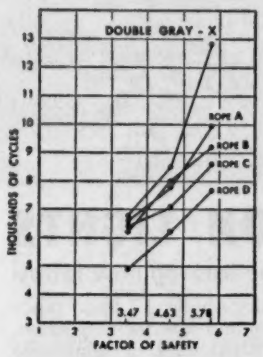
CF&I-WISSCO WOVEN WIRE BELTS

...ideal for process-conveying

Some of America's most famous industrial names ride on durable CF&I-Wissco Woven Wire Belts. They're resistant to both heat and corrosion and are available for either chain or friction drives, in a wide range of metals and specifications. Open mesh construction allows uniform circulation of air, gases or liquids. Write for Catalogs MS 606 and 607.

▲ For more details circle NED-636 F1 on enclosed inquiry slip ▲

CF&I-WICKWIRE DOUBLE GRAY-X



lasted 45% longer

All test ropes were ½" 6 x 25 FW Preformed E.I.P.S. Lang Lay IWRC.

In extensive tests, five competitive wire ropes—all made by major manufacturers—were tested to destruction.

Double Gray-X showed greater resistance to bending fatigue at all three safety factors used. At the highest safety factor, Double Gray-X lasted 45% longer than the average of other ropes tested.

▲ For more details circle NED-637 F1 on enclosed inquiry slip ▲

THIS IS THE IMAGE OF CF&I...

- As a nationwide steel company, CF&I has plants, warehouses, sales offices and distributors strategically located from coast to coast. CF&I manufactures all the steel products shown here—plus hundreds more used by all segments of industry.
- As an integrated manufacturer of steel products that meet high American standards, CF&I rigidly controls quality at every stage of production—from the mine to the finished product.
- As an experienced and well-known steelmaker, CF&I knows full well that the products of tomorrow must be developed today. The continuing aim of our research programs is to provide a constant stream of new and better steel products that will last longer and thereby cut production costs.

Discover the diversity of CF&I Steel Products—write for your free copy of Catalog G-50 Rev. Or, for more detailed information, contact your nearby CF&I sales office.

Plants at: Pueblo, Colo. • Oakland and South San Francisco, California • Buffalo, N. Y. • Palmer, Massachusetts • Birdsboro, Pennsylvania • Roebling, New Jersey • Trenton, New Jersey

The Colorado Fuel and Iron Corporation
Denver • Oakland • New York
Sales Offices in Key Cities

▲ For more details circle NED-635 F1 on enclosed inquiry slip ▲

TROYFELT, a non-woven synthetic Dacron, gave best performance in military vehicle

To meet such rigid military filter specifications as 100% filtering efficiency in heavy dust conditions in sub-zero to tropical temperature extremes with resistance to oil, moisture, rot and mildew, sixty materials were tried and only one, Troyfelt, met the test as the filter on an engine intake air cleaner.

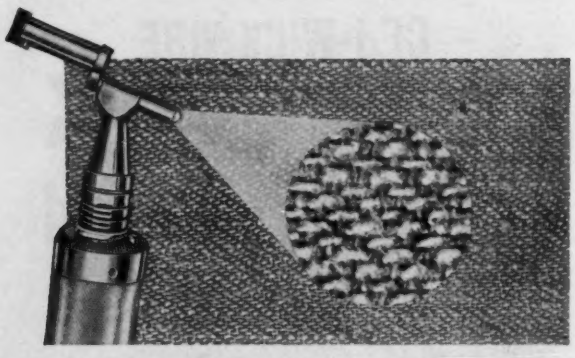
This success was due to Troyfelt's mechanically interlocked fiber construction. The absence of chemical binders or binder fibers prevents blinding and the structure gives Troyfelt unusually high, long-lived strength, excellent resistance to fungi and bacterial growth, chemicals, moisture, oil, abrasion, stability to temperature extremes.

Write for our bulletin describing other filter applications as well as applications on insulators, seals, padding, packings, gaskets and many others.

TROYFELT ... *by the pioneers of non-woven synthetic felts*

INDUSTRIAL PRODUCTS DIV. • TROY BLANKET MILLS
200 Madison Avenue • New York 16, N. Y.

For more details circle NED-638 F1 on enclosed inquiry slip



INSPECTION LIGHTS

New free catalog now ready

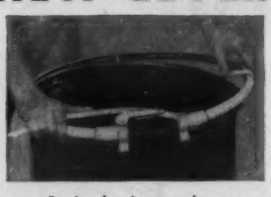
New catalog shows 12 basic types for surface and interior inspection. Includes prefocused or adjustable types, lights with magnifying lenses, mirrors for angle vision, miniature borescopes, battery handles, transformers, etc. Separate listing of 14 types of miniature lamps. Write for your copy today.

WELCH ALLYN, INC.
10 Jordan Rd., Skaneateles Falls, N. Y.

WELCH ALLYN LIGHTS THE WAY

For more details circle NED-639 F1 on enclosed inquiry slip

NEW LEVER-BOLT RING



1. Apply ring to drum.

2. Clamp lever in place, insert bolt and apply nut.

3. Tighten bolt for finished job.

Provides air-tight closure for full removable-head drums

Just 3 quick-easy steps . . . and this new Lever-Bolt ring seals the drum, makes an air-tight closure, and provides double protection. Two independent locking means are provided: (1) the lever-lock, for a quick and generally adequate **reusable** closure, and (2) the nut-and-bolt, providing a positive seal in transit.

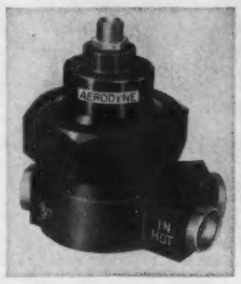
Gain simplicity, speed and better protection against damage and shipping losses. Specify Drum Parts LEVER-LOCK Rings for YOUR full removable-head drums. **Additional cost is amazingly low.**

Consult your drum manufacturer . . . or write for NEW CATALOG containing descriptive details on all Drum Parts closure devices. Send for your copy today.

DRUM PARTS, INC.
10311 Meech Ave., Cleveland 5, Ohio

For more details circle NED-640 F1 on enclosed inquiry slip

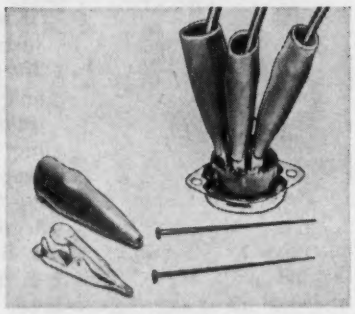
MIXING VALVE
motor operated unit for 3000 psi



Flow is controlled from the hot and cold inlet ports of the 21300 Series motor operated mixing valve to a common outlet by a segment of a cylinder which rotates on bearings. Electrical leads are brought out through a glass-to-metal header capable of withstanding 10,000 psi. This construction allows the small servo motor, gears, and the valve proper to operate at system pressure without moving seals. Valve has an operating pressure of 3000 psi and a proof pressure of 4500 psi. Operating temperature range is −85 to 400° F continuous, or 1000° F intermittent. Valve runs on 26 v, 400 cps. • **Aerodyne Controls Corp.**, 90 Gazza Blvd., Farmingdale, L. I., N. Y.

For more details circle NED-641 F1 on enclosed inquiry slip

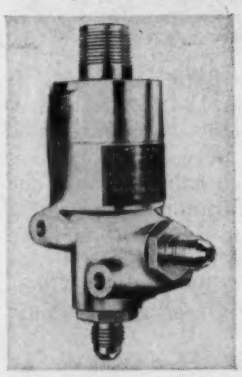
TINY ELECTRIC CLIP
plated steel and solid copper types



Only 1 3/32 in. long, the Microgator electric clip can be used on small, tightly packed terminals, on printed circuits, and in other close quarters. Maximum jaw spread is 7/32 in. The skin-tight, thin-walled flexible vinyl insulator is sold separately in red, black, white, blue, yellow, and green colors for multiple lead identification. Inserting the bared wire end through a hole permits easy spot soldering from the outside of the clip. Free samples of both the cadmium plated steel and solid copper types are available. • **Mueller Electric Co.**, 1567L E. 31st St., Cleveland 14, Ohio.

For more details circle NED-642 F1 on enclosed inquiry slip

TWO-WAY SOLENOID VALVES
pressures from 30 to 1500 psi

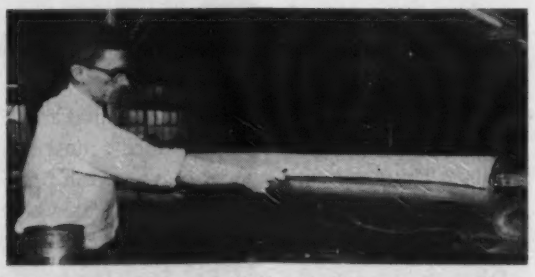


By having all moving parts immersed in the line fluid, dynamic seals are eliminated in this series of two-way solenoid valves. Solenoid power requirements are substantially reduced because all frictional forces are virtually eliminated. Valves are also suitable for line media that would adversely affect moving seals, such as cryogenics and hydrocarbons of high aromatic content. Pressure ranges from 30 to 1500 psi are available, and variations involving ambient and line temperatures, port configurations and sizes, mountings, connectors, solenoids, indicators, and overrides are possible. • **Marotta Valve Corp.**, Box 330, Boonton, N. J.

For more details circle NED-643 F1 on enclosed inquiry slip

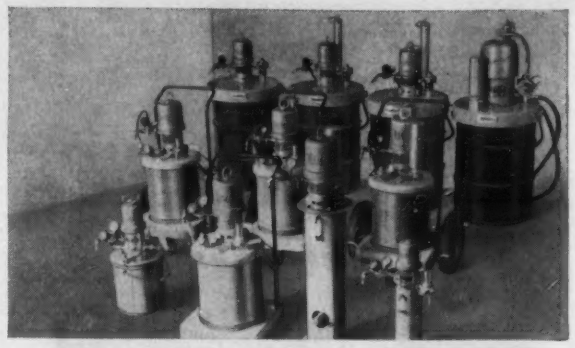
RUBBER LINING MATERIAL
for metals, wards off abrasion

Jade Green Armabond, a natural rubber covering and lining material for metal and other surfaces, provides protection against impinging abrasion and the action



of chemicals. It is cold bonded to the interior surfaces of chutes, mills, cyclone collectors, and shot and sand blast equipment with a field-applied cement. Rubber can also be used for recapping conveyor belts because it cold bonds to fabrics and other rubber compounds as well. Material is offered in 1/16 to ½-in. gages and in 48-in. widths. • **Goodyear Tire & Rubber Co.**, 1144 E. Market St., Akron 16, Ohio.

For more details circle NED-644 F1 on enclosed inquiry slip



Which of these new GRACO HYDRA-SPRAY models is designed to save YOU money?

Will a stationary or a portable model save you labor? Do you want to be able to change colors fast? Do you want a small unit or a large capacity assembly-line model?

Well, whatever your requirements, there's a Hydra-Spray designed to save you time, materials ... *and money!*

Eleven models to choose from—stationary, portable or standpipe—5 gallon to 55 gallon capacities. And you can pick from a variety of different tip sizes that handle anything from protective coatings to fine finishes.

See your Graco Dealer Today!

FREE Send today for free Hydra-Spray catalog. All the specifications are listed for your convenience in choosing the *right* unit for you.

GRACO ENGINEERS & MANUFACTURERS / **GRAY COMPANY, INC.** 67 Graco Square Minneapolis 13, Minnesota

See Phone Book Yellow Pages "Spraying" for Graco Suppliers

For more details circle NED-645 F1 on enclosed inquiry slip

More than 10,000 in use:

For quick, precise measuring of nonmagnetic thicknesses

Elcometer Thickness Gauge measures thickness of porcelain enamel, paints, platings, foils, glass, paper, plastics and other nonmagnetic coatings—*with a guaranteed ± 5% ± .0001" accuracy*. Handy pocket-size, it gauges flat or curved surfaces and hard-to-get-at spots easily. Needle-locking button assures correct reading every time. Now available in *fifteen* double-scale models, with contact spheres, "V" block, or flat bases.

Complete with tough leather case, inner pocket for test strips, and carrying harness. Weighs only 6 oz.

ONLY **$83.75** F.O.B. CLEVELAND

Write for free Illustrated Folder

FERRO **FERRO CORPORATION**
4150 East 56th St., Cleveland 5, Ohio

For more details circle NED-646 F1 on enclosed inquiry slip

Propels itself, forward and reverse! Lightning-fast cleaning action!

ABOVE. Heavy grease-caked dirt on wood block floor "drags" at truck wheels ... causes power loss.

BELOW. Same floor after one-operation "dry-cleaning" with high-speed Tennant Model K-4 Machine.

New SELF PROPELLING TENNANT K-4 Industrial Floor Machine gets the "gunk" off floors fast

SELF PROPELLING TENNANT K-4 Industrial Floor Machine removes grease-caked dirt, grime, metal cuttings, dried paint and other deposits . . . *all in one fast operation and without damaging floor surface!*

Terrific cleaning power. Removes up to 20 lbs. of traffic-packed dirt per minute; covers 500 to 1500 sq. ft. per hour. Cleans a 16" path, works close to walls and machines.

Many new features. Propels itself, forward and reverse; reverses instantly for extra clean pick-up. Has 30% larger pull-through filter for better dust control. Engine is 28% more powerful. Has a new, longer-wearing wire brush.

WRITE *for illustrated bulletin!*

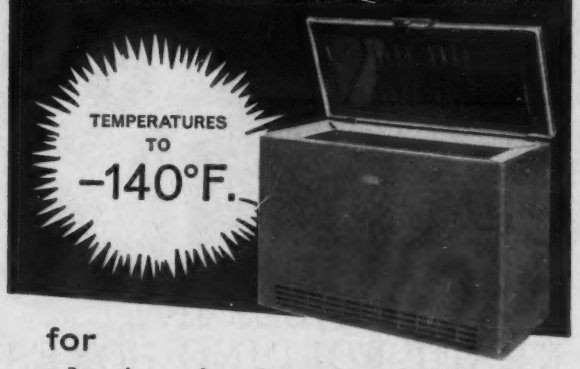
TENNANT *Industry's Most Widely Used* **FLOOR MACHINES**

G. H. TENNANT COMPANY • 715G N. LILAC DRIVE • MINNEAPOLIS 22, MINNESOTA

For more details circle NED-647 F1 on enclosed inquiry slip

REVCO

ULTRA-LOW TEMPERATURE CABINETS



for

- Research
- Storage
- Seasoning
- Testing

Seven Revco cabinets, both chest and upright styles, are available. Capacities range from 1.5 to 6 cu. ft. in chests and to 22 cu. ft. in uprights. Units provide temperatures to −140° F. controllable within ±1°. Optional accessories are offered. Immediate delivery on all units.

For your FREE copy of the helpful folder, "Selecting a low temperature cabinet," write Revco, Dept. NED-61.

Industrial Products Div.,
REVCO INC.
Deerfield, Michigan
Setting Trends in Refrigeration Since 1938

▲ For more details circle NED-648 F1 on enclosed inquiry slip ▲

LOOK AT THE FINE POINTS OR YOU'LL MISS THE PAYOFF! Royal equipment is literally packed with fine points that tailor it to the specific jobs of industry. The Royal Model 515 adjustable chair is typical: contoured, 4-way adjustable back is mounted on strong spring steel to conform to the slightest body movement. Adjustable legs telescope to most comfortable working height. There are no protrusions to catch clothing or cause injuries. The payoff is worker comfort, efficiency and safety. It's the same with Royal-DeLuxe cabinets. All corners are rounded, all hinges and fastenings are concealed. Extra heavy gauge panels are flush finished. Doors are rigid, shelves are adjustable and every cabinet is ventilated. There are dozens of Royal chairs, stools and cabinets for industry. Each is packed with fine points that make it more efficient, more useful, more valuable. Write today for full details and the name of nearest dealer. ROYAL METAL MANUFACTURING COMPANY, Dept. 25-F, One Park Ave., N. Y. 16, N. Y. In Canada—Galt, Ont.

Royal
INDUSTRIAL DIVISION

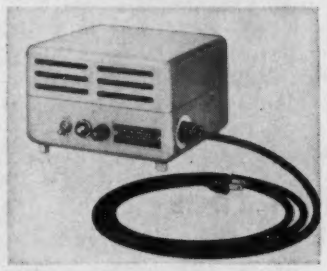
▲ For more details circle NED-649 F1 on enclosed inquiry slip ▲

DISPOSABLE WIPERS
have high wet and dry strength

Light oils, greases, solvents, dust, dirt, smudges, water, and other liquids are easily wiped up with Hoffmaster Industrial Wipes, a multipurpose disposable product of four-ply cellulose. The highly absorbent, soft wiping, polishing, and cleaning material has high wet and dry strength. Wipes are lint-free and scratchproof. White, tan, and blue denim colors are packed in dispenser cartons. • **Hoffmaster Co.**, Box 258, Oshkosh, Wis.

▲ For more details circle NED-650 F1 on enclosed inquiry slip ▲

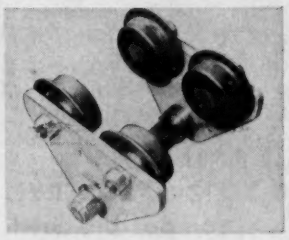
POSITIONING CONTROL
remote type uses pulse to step



Low level signal pulses or square waves are converted into the correct switching sequence needed to drive a Slo-Syn synchronous motor at 200 discrete steps per revolution by the ST-150 Translator pulse-to-step converter. Device is capable of speeds up to 225 or 400 steps per second, depending upon motor used. Commands originate from magnetic or punched tape, or from some other pulse generator. Power input is 120 v ac, 0.5 amp. Typical uses include automatic control of machine tools, such as digital positioning of working heads without feedback, remote positioning in hazardous areas, reactor control rod positioning, industrial robots, and camera focusing and positioning. • **Superior Electric Co.**, Dept. ST, 83 Laurel St., Bristol, Conn.

▲ For more details circle NED-651 F1 on enclosed inquiry slip ▲

CHAIN HOIST TROLLEY
4-ton unit for wide flange H-beam



This No. 14794 four-ton chain hoist trolley has a flat tread for use on wide flanged H-beams. Heavy reinforced side plates extend past the wheels, acting as bumpers, and are self-aligning to assure equal load distribution. Both halves of the trolley are adjustable to facilitate mounting at any point on the beam. Spacing washers insure exact adjustments on beams from 3 to 18 in. Wheels have Timken roller bearings, grease seals, and fittings. • **Saginaw Products Corp.**, 68 Williamson St., Saginaw, Mich.

▲ For more details circle NED-652 F1 on enclosed inquiry slip ▲

SIDE ENTERING MIXER
IS EASILY SERVICED WITHOUT DRAINING TANK

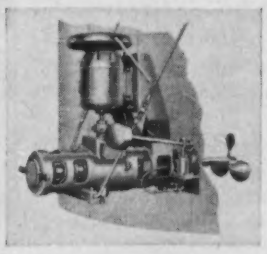
No need to wonder where to put a big tankful of liquid when a mixer shaft seal needs attention.

With stuffing box. A few turns of the easy-to-get-at handles on this LIGHTNIN Side Entering Mixer crank the shaft outward to seal off the stuffing box from what's in the tank.

With rotary seal. You can get the same LIGHTNIN Mixer equipped with a cartridge-type rotary mechanical seal that stops leakage for good, ends repacking, runs for years without adjustment, and is quickly replaced if it wears out.

LIGHTNIN Side Entering Mixers are your most economical way to mix or blend fluids in tanks as large as 6 million gallons. Mixing results are **guaranteed.**

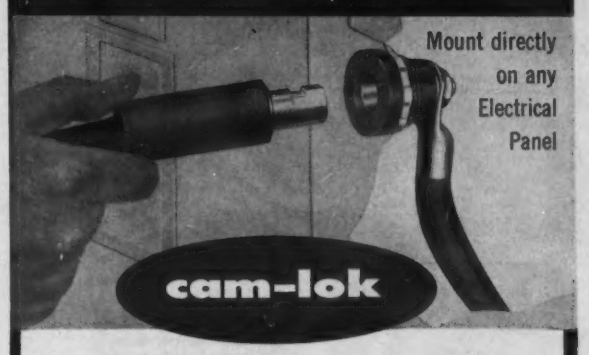
Sizes from 1 to 25 hp, with full selection of motors, materials, mountings. For details, send for Catalog B-104.



Lightnin® Mixers
MIXCO fluid mixing specialists
MIXING EQUIPMENT Co., Inc., 165-f Mt. Read Blvd., Rochester 3, N.Y.
In Canada: Greey Mixing Equipment, Ltd., 100 Miranda Ave., Toronto 19, Ont.
In Europe: Lightnin Mixers, Ltd., Poynton, Cheshire, England

▲ For more details circle NED-653 F1 on enclosed inquiry slip ▲

New Hi-Impact Plastic Insulated Panel Receptacles and Mating Plugs



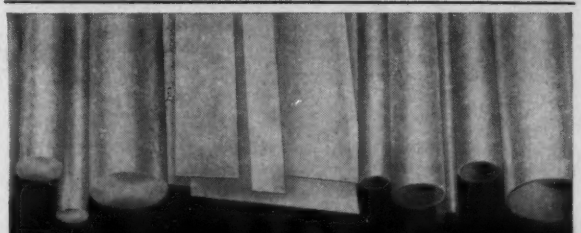
Cam-Lok self-insulated Receptacles mount with standard electrical lock-nuts on *any* metal panel, *without* costly, special insulation. Affords "dead front" protection and positive full-power connections. Plugs lock tight, release quickly. Eliminates special insulated panels on your products and reduces assembly time.

Write today for new Bulletin #301 on the complete line.

cam-lok DIVISION

EMPIRE PRODUCTS, INC.
9213 C Blue Ash Rd.
Cincinnati 42, Ohio

▲ For more details circle NED-654 F1 on enclosed inquiry slip ▲



how many products do you see here?

No, you can't see *all* the products that are being made today using *Danco* precision extrusions. *Danco* tubing and pipe, solid rod, and strip and heavy wall tubing — extruded in Nylon and other engineering thermoplastics — are self-lubricating . . . tough . . . long-wearing . . . non-corrosive and practically frictionless.

TUBING AND PIPE of Nylon is safe and non-corrosive; can be used in food and milk processing. New heavy wall tubing has proven ideal for bushings and bearings.

ROD is high density, machines to close tolerances. Products from *Danco* rod include gears, bushings, bearings, pins, many other machine parts.

STRIP rigid but flexible. Washers, gaskets and a variety of flat parts are stamped from strip on automatic, high speed stamping equipment.

NYLON-COATED INDUSTRIAL CABLE in a wide variety of sizes for many applications such as belt lacing, drawing board cables, manual controls, artificial limbs, etc.

MOLDED PARTS. You want to know more about *Danco's* experience and engineering of custom molded parts in Nylon and other engineering thermoplastics too.

DANCO

Free — new, fact-filled catalog on DANCO EXTRUSIONS. Write today!

THE DANIELSON MANUFACTURING COMPANY
A Subsidiary of Nicholson File Company
KING STREET, DANIELSON, CONNECTICUT

▲ For more details circle NED-655 F1 on enclosed inquiry slip ▲

MIXER FOR FLUIDS
PROVIDES EXTRA SAFETY AGAINST TROUBLE IN TANK

Even if the impeller accidentally strikes an object in the tank, the shock can't damage this mixer's speed-reducer gearing.

A flexible coupling between mixer shaft and drive shaft isolates the gears from shock loads in the tank. This unique feature of the Series E LIGHTNIN Mixer can save costly repair bills in any plant where fluids are mixed in large volume.

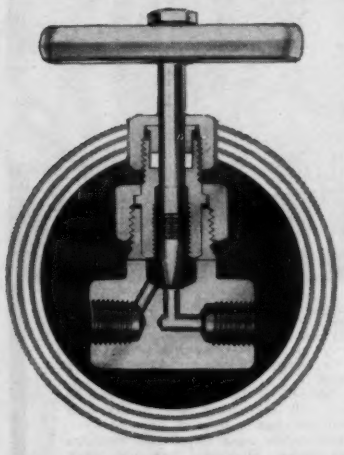
Good mixing guaranteed. You can count on LIGHTNIN Mixers to give you the mixing results you're after, in tanks of any size, any shape. Results are guaranteed unconditionally.

Low operating cost. Parts — even speeds—quickly, easily interchangeable. Hundreds of LIGHTNIN Mixers have been in service 20 years and more. Sizes of these units, 1 to 500 hp. **Send for Catalog B-102.**

Lightnin® Mixers
MIXCO fluid mixing specialists
MIXING EQUIPMENT Co., Inc., 165-f Mt. Read Blvd., Rochester 3, N.Y.
In Canada: Greey Mixing Equipment, Ltd., 100 Miranda Ave., Toronto 19, Ont.
In Europe: Lightnin Mixers, Ltd., Poynton, Cheshire, England

▲ For more details circle NED-656 F1 on enclosed inquiry slip ▲

▲ For more details circle NED-659 F1 on enclosed inquiry slip ▲



SOLVE YOUR METER MANIFOLD AND CORROSIVE FIELD SERVICE PROBLEMS

AMERICAN® NEEDLE VALVES

Teflon-packed forged steel American Needle Valves eliminate gland leaks, deliver dependable service under the toughest conditions. Stainless or carbon steel precision machined valve bodies are ideally suited for welding. Stainless steel centerless-ground valve stem design makes it simple to repack valves under pressure.

Standard valves design rated for pressures to 5,000 psi at 70°F. Upon request, assembled valves are hydrostatically tested to 10,000 psi (twice rated working pressure) and are individually inspected. Valves also furnished with graphite-impregnated asbestos packing for temperatures above 450°F.

Angle or straight patterns—screwed or union bonnets.

Your American Meter representative will give you full details.

AMERICAN® METER COMPANY (INCORPORATED ESTABLISHED 1836)
General Offices: Philadelphia 16, Pa.
Sales Offices in Principal Cities

▲ For more details circle NED-660 F1 on enclosed inquiry slip ▲

B-I-F Omega ROTODIP feeder . . . for precision feeding . . . low maintenance!

- Reduce materials loss . . . feed exact dosages . . . continuously! Designed for low maintenance, long life . . . corrosion-resistant materials used as required. Automatic pacing, if desired.
- ACCURACY . . . within ±1% of calibrated rate
- CAPACITY . . . maximum rates up to 1800 gph
- FEED RANGE . . . up to 100 to 1

Request Bulletin 65.20-1 for details. Write **B-I-F Industries, Inc., 425 Harris Ave., Providence 1, Rhode Island.**

B-I-F Industries
BUILDERS-PROVIDENCE • PROPORTIONEERS • OMEGA METERS • FEEDERS • CONTROLS / CONTINUOUS PROCESS ENGINEERING

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JELLY-LIKE WALL PAINT
thixotropic type will not run, drip

All types of wall surfaces, including plaster, paint, and wallboard, can be finished with Lucite acrylic paint. It has an extra thick, creamy consistency and will not drip, run, or spatter in use. Because it is thixotropic, it will flow out rapidly into a smooth coating as it is brushed or rolled. Paint needs no stirring, speeds "cutting in" at corners and around door and window frames, and permits missed spots to be touched up at any time without showing. Heavy coats are applied with high hiding power and small hairline cracks are bridged. Paint dries to touch in 30 min and is ready for recoating in 60 min. Nineteen colors and two whites are available. • **E. I. du Pont de Nemours & Co.**, Finishes Div., Wilmington 98, Del.

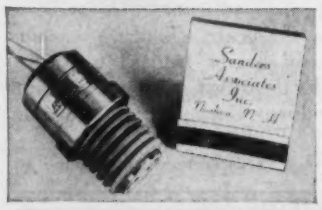
▲ For more details circle NED-662 F1 on enclosed inquiry slip ▲

OPTICAL ALIGNMENT TOOL
used with optical sighting device

Optical checking of alignment and angular spacing in any multiple of full degrees is facilitated with this Model MOX-3600 Milichex, in effect a 360-sided optical polygon. This precision indexing device has an optical mirror on its rim and is accurate within 0.000012 in. at a 20-in. diameter. Used with an autocollimator or other sighting device, the optical polygon provides an accurate mirror surface which reflects the projected image of the sighting device's cross hairs. The amount of deviation between the reflected image and the graduated cross hairs in the sighting device gives a geometric check on misalignment, parallelism, angularity, and other measurements. • **Michigan Tool Co.**, 7171 E. McNichols Rd., Detroit 12, Mich.

▲ For more details circle NED-663 F1 on enclosed inquiry slip ▲

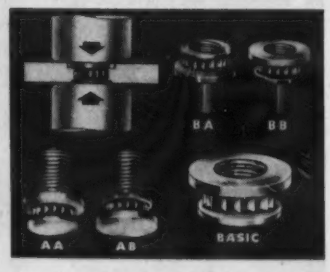
0 TO 2-GPM SERVO VALVE
compatible with all hydraulic fluids



In-line force feedback system, pressure-balanced construction, and single nozzle design of the miniaturized Mini-Valve assures high reliability and proportional flow vs. input signal at low cost. The 0 to 2-gpm electrohydraulic servo valve passes particles of 200-micron magnitude to minimize clogging and provide smooth, accurate servo control. Nylon seals and stainless steel fluid areas make the Model SV-128 unit compatible with all hydraulic fluids, plus a range of fluids from water to acid. Plug-in mounting simplifies installation. Valve weighs 2 oz and measures 2 1/8 x 1 1/16 in. • **Sanders Associates, Inc.**, 95 Canal St., Nashua, N. H.

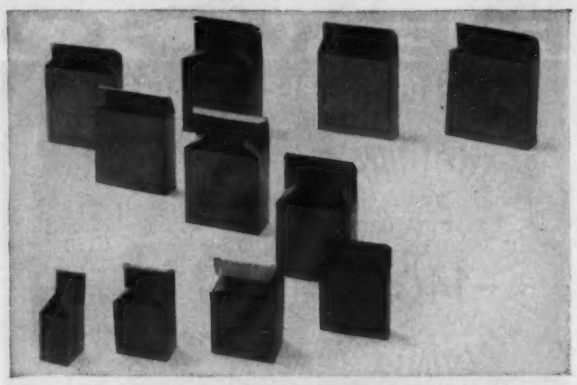
▲ For more details circle NED-664 F1 on enclosed inquiry slip ▲

FLUSH-MOUNTED FASTENERS
installed by standard punch press



Line of flush-mounted pressure displacement fasteners made of cadmium plated carbon steel are installed in 0.040 to 0.180-in. thick ductile sheet materials using standard punch press procedures. When the large flange is pressed into the sheet, displaced material forms the knurled undercut. Stock Types BA and BB and basic fasteners are rated for 550° F and are available from stock, whereas Types AA and AB studs, also for 550° F, are available in two weeks. Thread sizes range from 2-56 through 1/4-28. • **Stake Fastener Co.**, 1710 Potrero St., South El Monte, Calif.

▲ For more details circle NED-665 F1 on enclosed inquiry slip ▲



64 SIZES IN KRAFT FOLDING BOXES

Extra large inventory assures broadest choice, lowest prices, fastest delivery. Partial list of uses, includes machine parts, metal parts, plastic parts, bearings, auto parts, nursery products, hardware. Sizes range from 7/8" x 7/8" x 1" up to 5 3/4" x 5 1/4" x 7".

Ask for free samples, with sizes and price list.

Spark* makes the difference

STONE CONTAINER Corporation
Campbell Division
903 S. Main St., South Bend 23, Ind.
General Offices: 4200 W. 42nd Place, Chicago 32, Ill.

* Stone Packaging And Research Know-how

▲ For more details circle NED-666 F1 on enclosed inquiry slip ▲

INVESTIGATE the lifetime economies of

PERKINS AIRadiators

CEILING OR WALL MOUNTED

Write for Bulletin V
Tells how you get better plant heating, at low cost, with Perkins AIRadiators

Simplified mounting and reversible tapping locations assure economical installation on walls or ceilings, minimize piping costs. Perkins AIRadiators come in a full range of lengths and heights, all handling water or steam to 150 psi, all ruggedly built to last a plant's lifetime.

SHAW PERKINS MFG. CO.
Properly Designed Room Heat Distribution Equipment
201 E. CARSON ST., PITTSBURGH 19, PENNA.

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Whether you mark materials, parts, products or packages, there's a Markem machine ready to bring low cost, high production identification or decorative marking to your plant. From plastics to fabrics . . . transistors to camera parts . . . multi-color decorative marking to high production offset marking — there's a *Markem Method* to meet your marking needs. One source, with 47 years of experience in all industries, can supply the machines, type, inks, accessories and service you need. For complete information, write Markem Machine Company, Keene 3, New Hampshire.

MARKEM
EVERYTHING INDUSTRY NEEDS . . . FOR PROFITABLE MARKING . . . SINCE 1911

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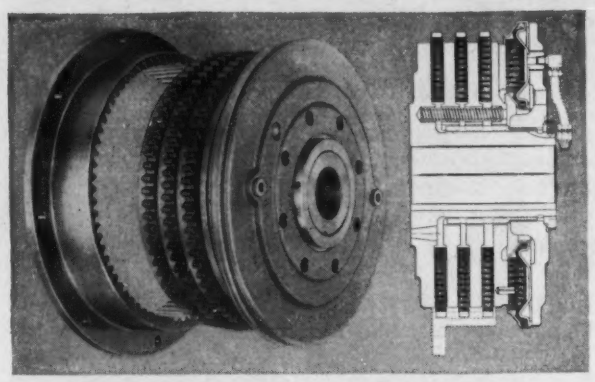


New low-cost air clutches — for *all* applications!

Three new Twin Disc PO Air Clutches! 8", 10", 11½" sizes! Triple-plate, double-plate or single-plate construction! Cost up to 40% less than comparable makes! Design features exclusive cartridge-type diaphragm of long-lasting neoprene reinforced with nylon . . . permits uniform contact—always . . . eliminates leakage! Self-compensating for wear . . . no adjustments required — ever! Narrow width permits replacement of band and drum clutches. Twin Disc now offers PO Air Clutches from 8" to 36", torque capacities to 126,600 lb.-ft.

TWIN DISC
Friction Clutches and Fluid Drives

TWIN DISC CLUTCH CO. • Racine, Wisconsin

For more details circle NED-669 F1 on enclosed inquiry slip

Wipco Wire Partitions FIT ANY AREA

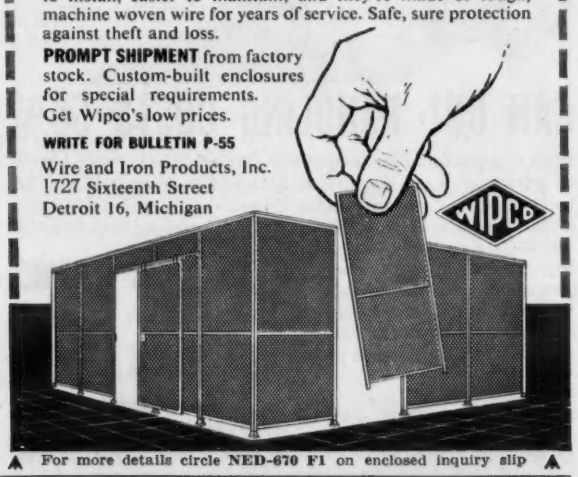
MOVEABLE—REUSABLE—FLEXIBLE! Standard sections in a variety of sizes for stock rooms, tool rooms, runways, etc. Each section a complete unit ready for erection. No special tools . . . no special crews. Your men install Wipco partitions quickly and easily. Future changes? Just disassemble and re-locate!

COST LESS THAN WOOD FRAMING AND WIRE NETTING Cheaper to install, easier to maintain, and they're made of tough, machine woven wire for years of service. Safe, sure protection against theft and loss.

PROMPT SHIPMENT from factory stock. Custom-built enclosures for special requirements. Get Wipco's low prices.

WRITE FOR BULLETIN P-55

Wire and Iron Products, Inc.
1727 Sixteenth Street
Detroit 16, Michigan



For more details circle NED-670 F1 on enclosed inquiry slip

Whenever you have a sticking problem.....!

Use

IMS

SILICONE FLUID SPRAY

To cut your reject costs!

Next time you walk through the plant and see them losing production due to process sticking in molding, packaging or cutting ... just order IMS Silicone Spray! You'll want to take a can home too, to prove its superb lubricating and anti-stick quality on locks...ice trays... guns...fish reels...storm windows, etc.

12 cans FREE!

Look for your FREE BONUS card in each unbroken dozen. Just mail us 12 of these cards and we'll send you one dozen cans at no charge!

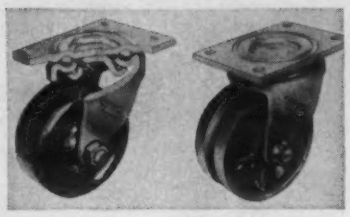
PRICES (Delivered)

Sample Can	$2.00
Per Unbroken Dozen	$18.00
Per Unbroken Gross	$197.40

INJECTION MOLDERS SUPPLY CO. INC.
17601 So. Miles Rd. Cleveland 28, O.

For more details circle NED-671 F1 on enclosed inquiry slip

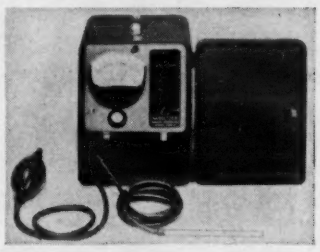
RIGID & SWIVEL CASTERS in 455 to 2500-lb load ratings



Lockweld construction in Series 25 steel swivel casters replaces the kingpin or bolt with a rigid welded structure that retains the double ball bearing raceways in permanent alignment. Spherical leg design lends strength and swiveling efficiency under load. The Series 25 swivel and matching-height Series 35 rigid casters are available in 5, 6, and 8-in. sizes with vulcanized rubber-tired, Lamilon plastic, and semisteel wheels. V-groove wheels are also offered in 6 and 8-in. sizes only. Load ratings range from 455 to 2500 lb. • **Fairbanks Co.**, 393 Lafayette St., New York 3, N. Y.

For more details circle NED-672 F1 on enclosed inquiry slip

GAS ANALYZER portable unit measures exhaust gases

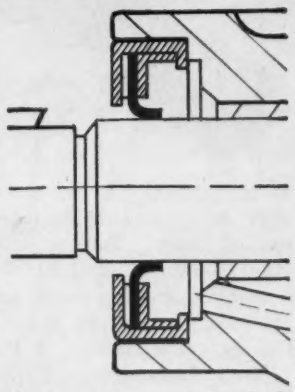


Binary gas mixtures are analyzed to within ±5 per cent accuracy by the Gasalyzer, a battery operated portable instrument. Higher degrees of accuracy are obtained with special calibration. It measures flue and auto exhaust gases; checks combustion efficiency; can be adapted to measure hydrogen, sulfur dioxide, and carbon dioxide; and measures fuel-air ratios in internal combustion engines, turbines, and furnaces. Readings are made on a sensitive meter. Power is furnished by a standard 6-v dry cell. An optional power pack converts the 6½-lb instrument to 110-v ac operation. • **Engelhard Industries, Inc.**, Industrial Equipment Div., 113 Astor St., Newark 2, N. J.

For more details circle NED-673 F1 on enclosed inquiry slip

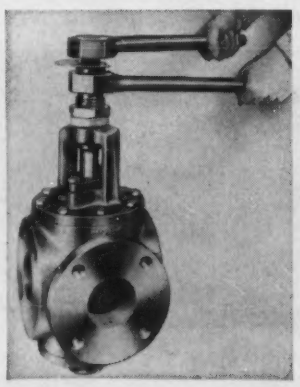
OIL SEAL effective at speeds to 3000 fpm

Chemically inert and unaffected by corrosion, P/S Klozure oil seal resists extremes in temperature, including Type A transmission oil at 300° F. It incorporates a permanent filled Teflon sealing element and will not score the shaft on which it is used. Sealing at speeds up to 3000 fpm is attained. A steel shell encloses and positions all components, and a tight-fitting gasket holds the sealing element in place. The filled Teflon sealing element rides firmly against the shaft to keep lubrication in and dirt out. Drawing is of a pump shaft with the seal in position. • **Garlock Inc.**, 445 Main St., Palmyra, N. Y.



For more details circle NED-674 F1 on enclosed inquiry slip

SLURRY VALVE closes tight over solid particles



Abrasive slurries and solids in suspension, as well as oil, gas, and chemicals are efficiently handled by this 3-in. 200-psi-rated tapered plug valve. Rubber covering of the plug accepts solid particles when valve is closed against them. No lubricant is used in the valve, and no routine service is required. Valve is actuated by two handles. Solids pressed into the rubber upon closing the valve are pushed out into the flow stream by the rubber when plug is raised to release pressure. Valve withstands sudden pressure build-ups to 900 psi due to its high safety factor. It is made in two, three, and four-way models. • **Republic Mfg. Co.**, 15655 Brookpark Rd., Cleveland 35, Ohio.

For more details circle NED-675 F1 on enclosed inquiry slip

FREE "SLIDE GUIDE"

...new aid to paint buyers!

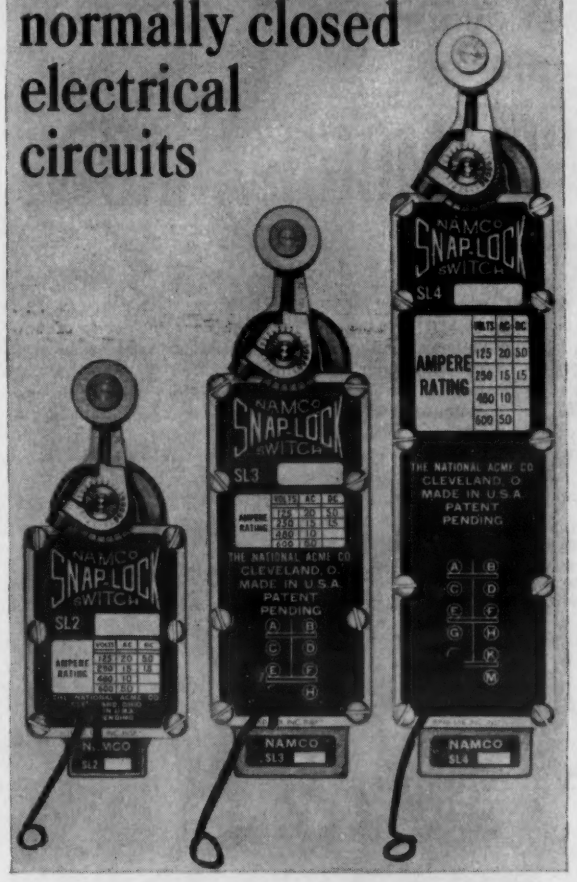
This new and unique quick reference guide to Barreled Sunlight Engineered Exterior and Interior Paints is sent *free on request*. Handy "slide rule" indicator pinpoints the answers to scores of questions on available finishes, colors, thinners and primers . . . also provides valuable data on recommended surface applications, special resistance features, drying time and square-foot coverage per gallon on over 40 different finishes. Measures only 10" x 4" to fit pocket . . . has space for owner's name. Write Barreled Sunlight Paint Company, 130-F Georgia Avenue, Providence 5, Rhode Island.

Barreled Sunlight Paints

ENGINEERED — FOR A BETTER LOOKING, LONGER LASTING PAINT JOB AT LOWER COST

For more details circle NED-676 F1 on enclosed inquiry slip

Take your pick... 1, 2 or 3 normally open, normally closed electrical circuits



What does your limit switching application call for . . . one, two or three normally open, normally closed electrical circuits? Whatever it is, one of these National Acme SL "Machine Life" Limit Switches . . . the SL2, the SL3 or the SL4 . . . will meet your precise requirement. And, every SL offers . . . a variety of cam arrangements for extreme operating flexibility . . . ample overtravel (67°) and by-pass (90°) . . . light operating pressure (10½ lbs. at 1½" radius). Also available . . . the SLS 2, 3 or 4 featuring "hi-shock" sliding contacts; particularly suitable for drop forge, punch press and other heavy equipment application. Call, write or wire for complete information.

National Acme

THE NATIONAL ACME COMPANY
182 E. 131st STREET
CLEVELAND 8, OHIO

Sales Offices: Newark 2, N. J., Chicago 6, Ill., Detroit 27, Mich.

For more details circle NED-677 F1 on enclosed inquiry slip

MAY-FRAN

Steel Belt Conveyors

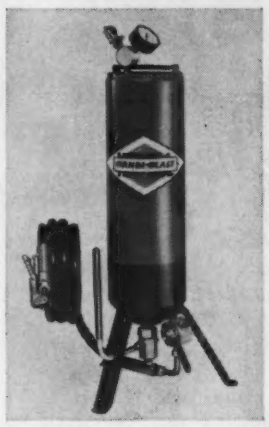
HINGED STEEL BELTING HANDLES FORGINGS, CHIPS, STAMPINGS AND TURNINGS.

Engineered for maximum economy, maintenance-free operation and long life, May-Fran belting is available in any width or length to meet individual requirements for load and speed. Economical customized conveyors are available from stocked component parts.

MAY-FRAN MANUFACTURING CO. 1710 CLARKSTONE RD. CLEVELAND 12, OHIO PHONE: KE 1-2304

For more details circle NED-678 F1 on enclosed inquiry slip

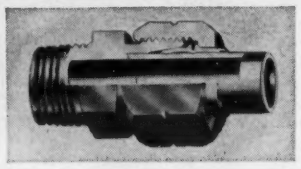
PORTABLE SANDBLASTER
with controlled abrasive flow



Completely portable Model 28A Handi-Blast sandblaster is a 29 x 6-in. diameter tank unit which holds up to 28 lb of sand and operates on the same air connection as any production spray gun. Squeeze grip delivery nozzle allows control of abrasive flow. Unit uses 20 to 100-mesh abrasive which is loaded through a built-in funnel. Filler valve automatically opens and closes with tank pressure. Abrasive and air are mixed in chamber under the tank. Unit is furnished with 3/32 and 5/32-in. nozzles designed to operate with 2 and 5-hp air compressors, respectively, and which consume 8 and 20 cu ft of air per minute. Price is $140. • **Hamill Mfg. Co.**, Handi-Blast Div., Washington, Mich.

For more details circle NED-681 F1 on enclosed inquiry slip

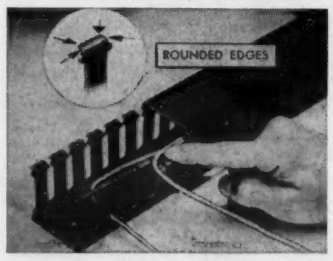
FLARELESS TUBE FITTING
for metal, plastic hydraulic tubing



Easy to install without special tools, this flareless tube hydraulic fitting has a symmetrically designed fitting ferrule to assure correct assembly. Fine thread on fitting nut provides wedging action which makes the ferrule a permanent leakproof integral part of the tube, even after repeated disassembly. Tube is lightly grooved by the bitting edges of the ferrule at two locations. Axial forces exerted on the tube are sustained by these indentures. Fitting can be used on steel, stainless, copper, aluminum, and most plastic tubing. • **AFCO Fitting Co.**, 5300 Harvard Ave., Cleveland 5, Ohio.

For more details circle NED-682 F1 on enclosed inquiry slip

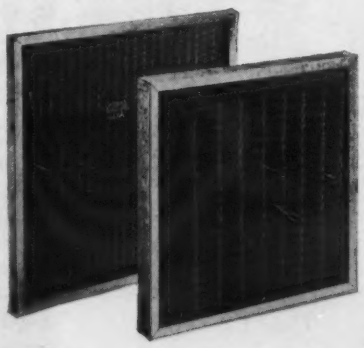
PLASTIC WIRING DUCT
open-slot type in 25 sizes



Rounded top surfaces featured on Type E Panduct open-slot plastic wiring duct protects wire insulation and prevents irritation of installer's hands. Plastic fingers which form the deep slots flex enough to allow wire to be inserted into the slots. Wires can thus be laid after terminals are attached. Duct cover snaps on and off easily. Panduct is molded from nonflammable vinyl plastic, is offered in 25 sizes in standard 5 or 6-ft lengths, and can easily be cut with a fine-tooth saw. Modular corner, tee, transition, and straight-through fittings are available. • **Panduit Corp.**, Dept. ND-5, 17301 Ridgeland Ave., Tinley Park, Ill.

For more details circle NED-683 F1 on enclosed inquiry slip

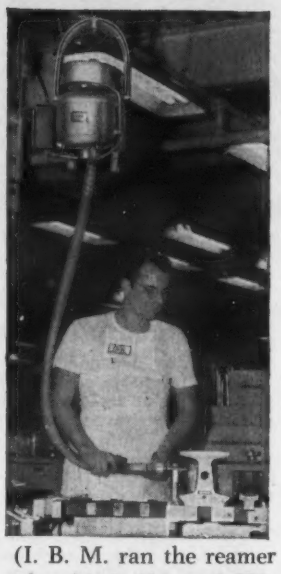
DRY-TYPE AIR FILTERS
easily washed in warm water



A minimum of servicing is required by Kleen Kwik permanent dry-type air filters for furnaces, air conditioners, and other packaged equipment using throw-away filters. To clean, filters are rapped to dislodge excess dirt, washed with warm water, and rapped again to knock out excess water. Units are made in all standard sizes in 1 and 2-in. thicknesses and do not require adhesive or oil coating. They will trap minute dust particles as well as large dirt particles dispersed in the air. Filter media is encased in galvanized steel and contained in heavy gage steel frame. Lint screens are provided on each side. The 20 x 20-in. size costs $5. • **Air Filter Corp.**, 4546-P W. Woolworth Ave., Milwaukee 18, Wis.

For more details circle NED-684 F1 on enclosed inquiry slip

suspension type
FLEXIBLE SHAFT MACHINE
eliminates tooling problem for I. B. M.



International Business Machines Corporation had the problem of reaming holes .813" in diameter in the mounting hanger on the main base of their 407 Accounting Machine. To eliminate expensive tooling for this operation, they selected a STOW V50 portable flexible shaft machine, specially fitted with an on-off switch mounted on the handpiece.

The V50 machine delivers 1150, 2100, 3450 or 5750 RPM, is furnished with a 6-foot flexible shaft. Other speeds can be achieved by using different size pulleys. (I. B. M. ran the reamer at 750 RPM.) Available in either 3/4, 1, 1 1/2, or 3 HP, the V50 can be used for grinding, buffing, sanding, wire brushing and drilling. **Stow Manufacturing Co.**, 26 Shear Street • Binghamton, New York. *Advt.*

For more details circle NED-685 F1 on enclosed inquiry slip

CAN CUT HANDLING COSTS 50%

With this self-dumping hopper one man can do the work of two, in a fraction of the usual time. Attached in seconds to any lift truck. Operator picks up loaded Hopper—transports it—releases latch. Hopper automatically dumps itself, rights itself, locks itself. Eight sizes, 1/2 to 4 yards capacity. Made of 3/16" steel plate, also stainless or galvanized. Standard models shipped from stock. Literature available on request.

ROURA Self-Dumping HOPPER

ROURA IRON WORKS, INC. 1415 Woodland, Avenue, Detroit 11, Michigan.

For more details circle NED-686 F1 on enclosed inquiry slip

...more caster for your money

Series "68" caster with side brake

"DIAMOND-ARROW"

Here's a *top-quality*, but economical, ball-bearing-swivel caster with side brake.

It's the Bassick Series "68." Bassick's unique "Diamond-Arrow" swivel construction features a two-level ball race . . . more economical because one ball-race does the work of two . . . smoother, more effective swiveling because more than 60% of the bearings are under load at all times.

Inexpensive side brakes, available on casters with 3", 4" and 5" wheels, engage or disengage quickly and easily at the touch of a hand or toe. (Also available without brakes in a variety of wheel types and diameters.) Hard or soft tread wheels.

Ask your Bassick distributor or write us for complete information on these outstanding Bassick casters. 1.19

THE BASSICK COMPANY BRIDGEPORT 5, CONN. IN CANADA: BELLEVILLE, ONT.

Symbol of Excellence SW Bassick A DIVISION OF STEWART-WARNER CORPORATION

For more details circle NED-679 F1 on enclosed inquiry slip

Decker Industrial Fasteners are precision manufactured to meet your demands for better, faster . . . more practical method of parts assembly. Their dependability and on-the-job economies have made them the recognized *standard* for over 30 years.

Whatever your need in standard or special fasteners, Decker is ready to serve you quickly and effectively on *any* quantity—type or size.

Write today for your copy of the big, new Decker catalog.

DECKER NUT MANUFACTURING CORPORATION 1900 N. Clark Road • ALBION, MICHIGAN

For more details circle NED-680 F1 on enclosed inquiry slip

McGILL®

FOR DEPENDABILITY

Rely on McGill Toggle Switches for applications requiring fully protected performance. The housing is impact resistant, dust- and vibration-proof. Models are available in 6 amp. to 20 amp. ratings, SP and DP with added DC and HP ratings. Choice of terminals.

From a complete line of momentary contact, rocker, toggle, and special-design switches.

Send for free Catalog No. 60.

engineered electrical products McGILL® *precision needle roller bearings*

McGILL MFG. CO. INC., Electrical Div., 151 N. Campbell St., Valparaiso, Ind.

For more details circle NED-687 F1 on enclosed inquiry slip

NEW from PREMETCO
PREFORMED ALUMINUM HEAD COVERS

Formerly a difficult and expensive on-the-job task for insulating contractors, the covering of 2 to 1 elliptical heads can now be done in a fraction of the time and with uniformly efficient weather seal. Premetco Gore Type heads are fully formed and fitted ready for installation. Heads under 42" in diameter are shipped to the job site completely riveted and ready to be slipped on. Larger heads are shipped in segments for final assembly at the job site.

Factory forming assures perfect fit and uniformity for best appearance and maximum service. All seams are reversed to shed water. A 6" flange extends downward to give a maximum lapping surface for overlapping roofing sheets or corrugated jacketing on the vessel body.

A sprayed and baked on epoxy moisture barrier is standard on the inside head surface. Heads are available from one foot to 13 feet in diameter. *Write for full information and prices today.*

PREFORMED METAL PRODUCTS COMPANY, INC.
230 Simms Street Shreveport, Louisiana P. O. Box 1134

▲ For more details circle **NED-688 F1** on enclosed inquiry slip ▲

NEW from Metron

A LIGHT BUT RUGGED HAND TACHOMETER

Here are the features you asked for in Metron's new TRIPLETACH:

CONSTANT ACCURACY—± 1% full scale
THREE RANGES—changed with a flick of the switch
FOOL-PROOF READINGS—only the scale in use is visible
COMPACT SIZE—3½"x5⅝"x2½"; fits your toolbox
LIGHTWEIGHT—only 24 oz.
HANDY CASE—carry all accessories with you
VERSATILE—reads directly: shaft speeds in RPM; belt speeds in ft./min. or in./min.
ONE ROTATING PART—ball bearing-mounted; permanently lubricated.

Send today for Bulletin 103A and ordering information. Delivery: one week.

METRON INSTRUMENT CO.
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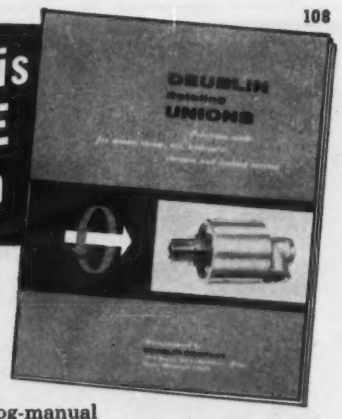
108

Send For This NEW FREE Catalog On DEUBLIN Rotating UNIONS



A completely new, 20 page illustrated catalog-manual showing all the models of Deublin Rotating Unions for water, steam, air, hydraulic, vacuum and coolant service for the machines you make or use, is just off the press to help you get trouble-free service and reduce your "down-time" and keep maintenance to a minimum. Shown are rotating joints for water and steam service; monoflow and duoflow unions; single and double passage rotating air unions; hi-pressure lo-torque unions; extra capacity air unions; rotating siphon pipe unions; in-the-shaft mounted unions; hydraulic rotating unions and hi-speed coolant unions. Complete with full engineering data, cut-away drawings, plus instructions for installing, lubricating and servicing Deublin unions.

Write for your free copy today.

DEUBLIN COMPANY
1925 STANLEY ST. • NORTHBROOK, ILL.

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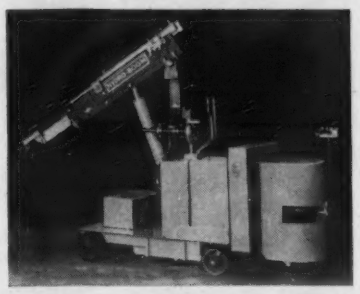
MOBILE FLOOR CRANE
lifts 3000 lb with 48-in. reach



Self-propelled, walkie type Hydro-Boom Model 135 mobile floor crane will make a complete turn in a distance equal to its own length. Of counterbalanced design, it is suited for changing and handling dies, molds, grinding wheels, machine accessories, and motors. Lifting capacity is 3000 lb with the hook 48 in. beyond the front platform edge. Hydraulically controlled boom movement permits 0.01-in. precision control of the hook in up-down, in-out, and right-left directions. Crane is battery powered. • **Vanguard Mfg. Co.**, 1908 E. 66th St., Cleveland 3, Ohio.

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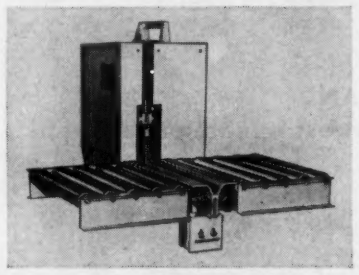
STEEL STRAPPING MACHINES
handle ⅜ to ¾-in. strap widths



Steel strapping machines in the F7 Series have this basic strapping mechanism. Options include full package-circling tracks and controls for automatic strapping. Basic self-contained mechanism is air powered and electrically controlled, weighs about 75 lb, and measures 26 x 14 x 12 in. It has unlimited strap feed and take-up and holds 100 metal seals. Unit operates on 110-v ac, requires 60 to 90-psi air supply, and can be interchanged between different F7 machines. Strapping mechanism handles ⅜, ½, ⅝, or ¾-in. strap widths and gages of 0.015, 0.018, 0.020, and 0.023 in. • **Acme Steel Co.**, 135th Street & Perry Avenue, Chicago 27, Ill.

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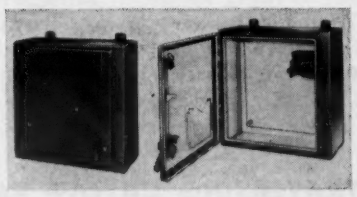
SWITCH ENCLOSURES
for disconnect type switches



Protection against dust, dirt, oil, and water is provided by NEMA Type 12 disconnect switch enclosures, designed for easy installation of Square D disconnect switches. Enclosures feature a removable steel panel mounted inside on collar studs, continuous welded seams, two arc welded mounting feet, and a piano-hinged door with neoprene gasket. A latch rod with interlock bracket is furnished. Seven standard sizes from 24 x 20 in. to 42 x 30 in. have a depth of 8 in. All have two switch brackets to permit use of either a 30 or 60-amp switch, fused or nonfused. • **Huenefeld Co.**, 2701 Spring Grove Ave., Cincinnati 25, Ohio.

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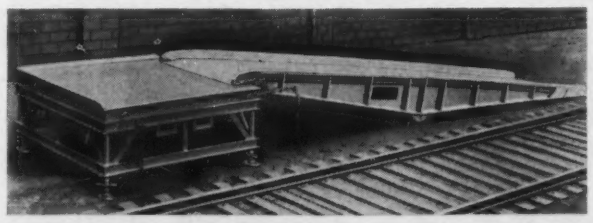
PORTABLE PLATFORM-RAMP
standard capacities to 20,000 lb

Ground-to-carrier loading where access space is limited is facilitated by this portable magnesium platform and mobile loading ramp. The combination unit can



be positioned alongside railcars, trucks, and trailers, and power vehicles can move up and down the ramp parallel to the carrier. Open grating surface with serrated tracks assures good traction and minimizes the build-up of snow, ice, mud, or grease. Ramp elevates hydraulically and spring-loaded safety chains lock it to platform. The platform has telescoping legs, fork lift guides, removable curbs, and eye bolts for attaching the ramp. It is available in 13 models; the ramp in 14 models. Capacities range to 20,000 lb. • **Magline Inc.**, 1900 Mercer St., Pinconning, Mich.

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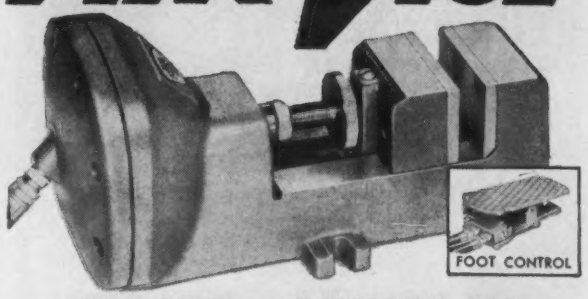
Speedy AIR VISE

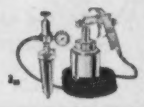


HIGH SPEED • POWERFUL GRIP

New, improved model speeds up all repeat operations—*milling, drilling, tapping, punching, bending, riveting.* Both hands left free to produce more! Light squeeze to 2250 pounds pressure! Extra thick jaws for attaching jigs. Jaws open to 3-inches; 1/16" to 5/8" maximum travel. Complete with foot control, air hose and fittings..... **$44.00**

SPEEDY AIR REGULATOR
Regulates pressures 0 to 140 lbs.
No. 622 $7.25

SPEEDY AIR FILTER
Assures clean, oil-free air.
No. 140 $4.00
Slightly higher West Coast



SPEEDY UNIT
Production spray unit with Ext. Mix Gun.
No. 705
$26.50

Order from Your Supplier or Write for Air Tool Catalog
W. R. BROWN CORP., 2647 N. Normandy Ave., Chicago 35

AIR TOOLS • AIR VISES • AIR REGULATORS • FILTERS • COMPRESSORS

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KRW MULTI-JOB PRESS DOES ALMOST EVERYTHING!

JACK OF ALL JOBS: This KRW Motor-Driven Hydraulic Shop Press performs all sorts of work that calls for a "squeeze" (up to 75 tons) There's practically no limit to what it can do. The jobs shown above are but a few. Dies can be readily improvised for hundreds of applications.

QUICK CHANGEOVER. It usually takes only a minute or two to switch from one setup to another. As a result, many a KRW shop press that has been purchased for one job is now doing dozens.

SPEED, ACCURACY AND OPERATING EASE: Developed by a maker of numerous types of hydraulic presses, KRW features assure bonus performance: Bed and crown members truss-reinforced. Any pressure up to rated tonnage quickly attained. Convenient lever controls ram. Excellent inching. Spring return of ram. Direct-connected motor drive.

GET THE FULL STORY on this versatile machine as well as other KRW hydraulic shop presses (motor-driven and hand-operated, 25 thru 150 tons). Mail the coupon below.

K. R. WILSON, INC.
1228 MAIN STREET, ARCADE, N. Y.

MAIL illustrated bulletins on KRW Motor-Driven and Hand-Operated Shop Presses to us, without obligation.

NAME _____ TITLE _____
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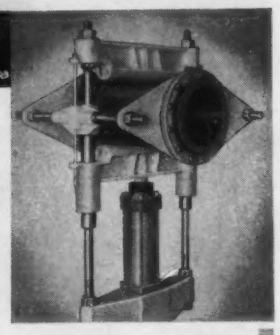
NEW



automated PINCH VALVE SYSTEMS

Controlled circuitry for any operating requirements.

The Massco-Grigsby Hydral-60 System consists of one or more pinch valves with a single automatically operated hydraulic pump. The pump may be operated by electric motor or by air from normal plant supply system. Valves may be coordinated and interlocked with other plant equipment to automatically control tank levels, etc.

3" to 14" I.D.; 50, 100, 150 psi; up to 200° F.

Rubber and neoprene sleeves for corrosive and abrasive pulps and liquids.

Write for NEW CATALOG No. 609

OFFICES AND AGENTS IN PRINCIPAL CITIES

MINE & SMELTER SUPPLY CO.

3800 RACE STREET—DENVER 16, COLORADO

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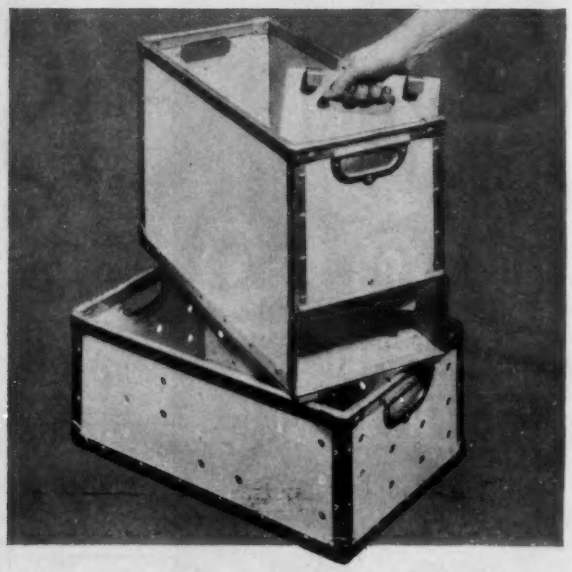

1 BOX or 1,000

TAILOR-MADE TO YOUR SPECS BY TOTELINE

You can handle, ship or store just about anything with Fabri-Totes . . . a new line of custom-made Toteline boxes from Molded Fiber Glass Tray Co. They're made to your specifications in the quantity you want—1 or 1,000.

These durable, economical containers—available with solid or perforated panels of molded fiber glass, aluminum or vulcanized fiber, riveted together with galvanized steel hardware—are designed to meet your specific materials handling requirements. Best of all, no minimum order is necessary.

This Fabri-Tote Repack Box is ideal for use in warehouses, stores or shops where covered storage containers are required. Its locking hasp assures protection for contents in over-the-road shipments. The Repack Box will nest when empty and stack when loaded.

Fabri-Tote Linen Trucks speed housekeeping and reduce maintenance and replacement costs. The Linen Truck comes equipped with four casters, two of which swivel for easy handling of heavy or bulky loads. Like all Fabri-Totes, the Linen Truck can be fabricated to meet your specifications and needs.

The Fabri-Tote General Purpose Box is a versatile, money-saving piece of equipment used in machine shops, stores, parts departments or wherever a rugged material handling container is needed.

Fabri-Totes can be equipped with hardwood runners, lids, hand holds. They can be designed either to nest or stack.

by TOTELINE

MOLDED FIBER GLASS TRAY CO., LINESVILLE, PA.

A DIVISION OF THE MOLDED FIBER GLASS BODY CO.

Please send me further information on Toteline Fabri-Totes

Name_____ Title_____

Company_____

Address_____

MF-18-NED

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MANUAL DIAPHRAGM PUMP handles any material that will flow

Liquids containing solids of any size or shape that can pass through the 2-in. suction and discharge connections are readily pumped by the Lever Action hand-operated diaphragm pump. It handles industrial wastes, sewage, corrosive chemicals, and other materials that will not attack its rubber diaphragm or neoprene valves. The self-priming unit has a suction lift up to 25 ft and a capacity of 1800 gph. Pump can be supplied on a carrying board for transportation anywhere in emergency service. Aluminum, bronze, and stainless steel models weigh 10½, 29½, and 37 lb, respectively, and have side or bottom inlet. Size is 7½ x 10½ x 17 in. Aluminum and bronze models range in price from $79 to $96. • **Edson Corp.**, 384A S. Water St., New Bedford, Mass.

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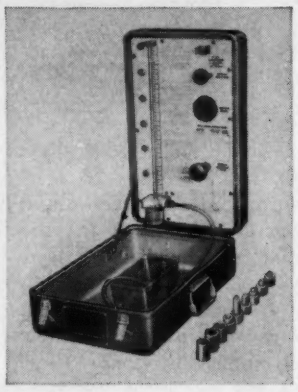
FILTER TEST STAND measures largest opening in element



Damaged or otherwise imperfect filter elements are detected prior to installation by this self-contained bubble point test stand. The portable unit rapidly and accurately measures the largest opening in a filter element. Operating on shop air at 6 to 250 psi, the test stand contains an air filter and regulator, as well as necessary controls. Detection range is from 13 to 120 microns. Most common sizes of filter elements are accommodated directly, with others tested by using adaptors. Elements up to 18 in. long with diameters of 4 in. (or 10 in. wide) are tested in the lower half of the case. Equipment also measures orifice diameters, checks valve seating, and measures the size of small openings. • **Aircraft Porous Media, Inc.**, 30 Sea Cliff Ave., Glen Cove, N. Y.

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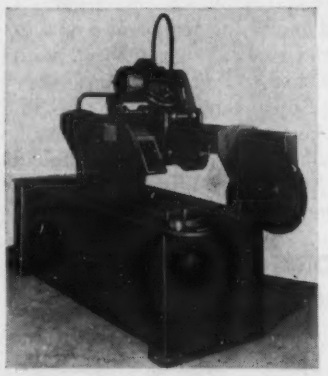
TRAVERSING CUTOFF SAW makes cuts up to 12 ft long



Promacutting principle that produces a semi-milling action and an almost burr-free cut with no blueing of the metal is utilized by the Uni-9A long bed traversing cutoff saw. Its high speed and torque cuts through grating and other structurals so fast that no heat is absorbed, without coolant. Approach of the saw into the stock holds work in position without clamping. The unitized head which travels on eight V-rollers is fed manually by a geared hand wheel, or it may be equipped for automatic feed and return. Five sizes have cut length capacities from 48 to 144 in. Saw is powered by a 12.5 hp 220/440-v, three-phase, 60-cycle sealed motor. Typical cutting time is 16 sec for a 30-in. cut through ½-in. plate and 4 sec on 5 x 5 x ½-in. angle. • **Production Machinery, Inc.**, 4941 W. Belmont Ave., Chicago 41, Ill.

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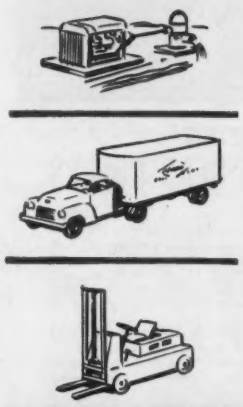
Safety Gloves & Clothing

Held in a loose-leaf binder, the "Safety Catalog" contains information on a wide range of safety gloves of various materials for many uses, plus items of safety clothing. Hand and wrist protectors, duck sleeves, aluminized flame resistant suits, and eye wash bottles are included. Available only by writing on company letterhead to Advance Glove Mfg. Co., 901 W. Lafayette Blvd., Detroit 26, Mich.

SAVE 40% ON GASOLINE ENGINE OPERATING COSTS

BEAM LP-GAS CARBURETION EQUIPMENT



Out front in the LP Carburetion Field for over 23 years, Beam has the "right" conversion system for your gasoline-powered equipment . . . whatever its size or function.

Beam Carburetion Systems are easy to install, most compact in the industry, and offer many other exclusive features. They will:

- save fuel costs,
- eliminate carbon and sludge,
- increase engine life three to four times,
- extend oil life up to ten times!

CONVERT WITH BEAM! Write today for complete details; specifications for your equipment; name of nearest Beam dealer.

BEAM PRODUCTS MFG. CO.

3040 Rosslyn Street • Los Angeles 65, Calif.

CHapman 5-5791

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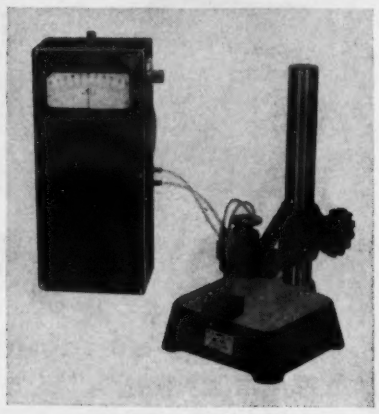
MODEL AG5 ACCU-FLOW AIR GAUGE

A general-purpose non-contact gauge for use as measurer or comparator on a variety of critical applications.



A new standard of accuracy . . .

ACCU-FLOW* by AMES

B. C. Ames has perfected a new concept of air gauging that offers extremely fine measurement and unusual stability.

AMES ACCU-FLOW air gauges give you an accurate non-contact measuring method that is ideally suited to checking size variations on continuous production items such as wire, rubber, plastics, etc. Send for free ACCU-FLOW folder.

*Trademark of B. C. Ames Co.

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B.C. AMES CO.

34 Ames Street, Waltham 54, Mass.

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MANUFACTURERS OF MICROMETER DIAL INDICATORS AND GAUGES

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The Standard of Excellence!

■ For design, utility, and service you can't beat VACO. The Comfordome handle and oil tempered chrome vanadium steel blade assure maximum convenience at low cost. The VACO name and unconditional guarantee assure finest workmanship.

Look for the VACO Vari-Board! Next time you need a screw driver, fit the driver to the screw by making your selection from a VACO Vari-Board. Your choice of up to 120 screw drivers at a glance!

NEW! VACO PLIERS! Now available in all popular styles and sizes. Made to VACO quality specifications.

VACO PRODUCTS COMPANY, 317 E. Ontario St., Chicago 11, Ill.

In Canada: Vaco-Lynn Products, Ltd., Montreal 1, Quebec

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LYON® BIN UNITS

SHIPPED SET UP . . . READY FOR USE

Use these sturdy steel bins wherever there are parts or small bulk or packaged items to be stored or displayed.
Steel bins are 3′ wide, 1′ deep, 6½′ high. Shelves are adjustable up and down every 1½″. Dividers adjustable horizontally every inch. Finished in durable gray baked-on enamel. Available in a variety of bin arrangements to accommodate small, large or long items.

Write for free 100-page Lyon Catalog

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

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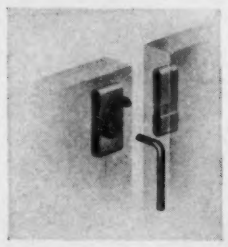

New!

DUAL-LOCK... A high-load structural fastener

Here's a new high-load, positive-locking structural fastener that can cut your assembly costs on demountable buildings, shipping containers, aircraft cowlings, etc.

Check these Dual-Lock features:
- Double-acting take-up insures heavy closing pressure; provides pressure-tight seal when gaskets are used.
- Trigger action insures full open and full closed positions.
- Vibration-proof and impact-proof.
- Easily installed; can be recessed in panels or surface-mounted.
- Withstands 7000-lb. tension.

Write today for samples and 40-page catalog.

SIMMONS FASTENERS
Quick-Lock · Spring-Lock · Roto-Lock · Link-Lock · Dual-Lock · Hinge-Lock

SIMMONS FASTENER CORPORATION
1793 North Broadway, Albany 1, N. Y.

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LYON® CABINET BENCH

Model No. 3000
(36″ w x 24″ d x 34″ h)

The Cabinet Bench with a Thousand Uses

Heavy steel top • Large enclosed storage area
Adjustable shelf • Built-in door lock
Durable gray baked-on enamel finish

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General Offices: 122 Monroe Ave., Aurora, Illinois
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Dealers and Branches in All Principal Cities

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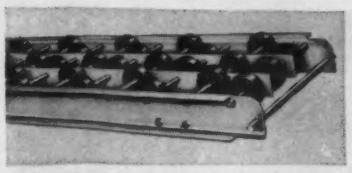
NYLON-WHEEL CONVEYOR
10-ft, 12 and 24-in. wide sections



Long-wearing nylon wheels used in these lightweight conveyor sections produce extra-live, responsive action and fast, free-wheeling transmission of loads. Wheels are mounted on aluminum or steel frames which have hook or bar couplings for installation in existing conveyor lines. Nylon wheels with nylon bearings, or nylon wheels with either double row steel or stainless steel ball bearings are offered. Units are made in 10-ft straight sections and 90-degree curves, in 12 and 24-in. widths. • **Harry J. Ferguson Co.**, West Avenue, Jenkintown, Pa.

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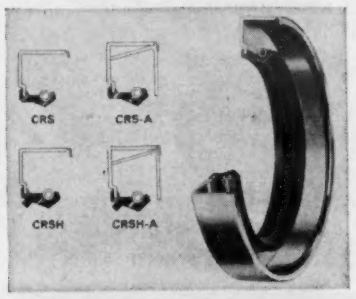
SHAFT TYPE OIL SEAL
sealing members are synthetic rubber



Spring-loaded sealing member securely bonded to the shell comprises the Type CRS shaft type oil seal for industrial, automotive, off-the-road, and farm equipment applications. Sealing members are molded of wear resistant Sirvene 417102 synthetic rubber. Four standard configurations are offered for ½ to 7-in. shafts. Type CRS is the basic design, and Type CRS-A has an auxiliary exclusion lip. Types CRSH and CRSH-A are furnished for large shaft, heavy duty service or where the sealing lip must be protected against assembly damage. Both have a protective inner cup, and the latter has both sealing and auxiliary exclusion lips. • **Chicago Rawhide Mfg. Co.**, 1301 Elston Ave., Chicago 22, Ill.

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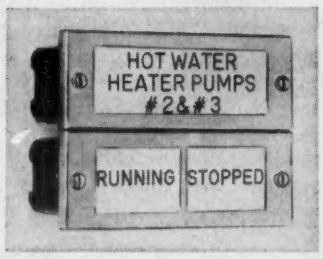
INDICATING LAMPS
multiple, semiflush mounting units



Two series of rectangular multiple indicating lamps, available with stainless steel finish, neoprene dust and moisture gaskets, and multicolored legend plates, are applicable to panel board, and electronic usage. They have a 6 to 120-v range. Legend plates are available for engraving, printed and drawn inserts, or grease pencil marking. Type ML has a 1½ x 3⅞-in. frame, a maximum of four lamp sockets, and up to four legends on the windows. Type DR-LV has a 1¼ x 5⅛-in. frame with from 1 to 6 windows with legends. Both types can be grouped vertically and horizontally to save space. They use standard S6, T3¼, and other types of lamps. Combinations of switches and other accessories can be used in the window sections. • **H. R. Kirkland Co.**, 8 King St., Morristown, N. J.

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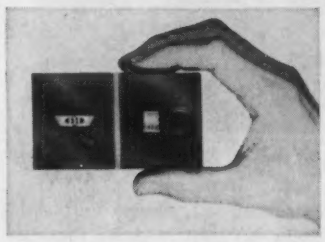
CALIBRATION TESTER
simulates dc output of transducers



This 8-oz BH153 calibration tester is a direct-reading adjustable voltage source which will simulate the direct-current output of transducers with a setting accuracy within 0.05 per cent. It consists of the Howell Ta'Pot infinite resolution potentiometer and a bridge network supplied with 115-v ac or 400-cycle power, Zener referenced. Instrument is used for field or lab testing of recording or indicating instruments in the millivolt or microvolt range. Its 12-ft scale can be graduated in several ranges in terms of cardinal points of the instruments to be calibrated, or in a single range with up to 1000 scale divisions. • **Howell Instruments, Inc.**, 3479 W. Vickery Blvd., Ft. Worth 7, Tex.

▲ For more details circle NED-711 F1 on enclosed inquiry slip ▲

Compare the resilient strength of Lyon *channel frame construction.* Compare Lyon functional beauty —backs and seats curved to match body contour — round, smooth edges and pinch-proof hinges.

Millions of Lyon chairs are in use, all over the world, providing the utmost in comfort, safety and long life at the lowest possible cost.

Write for free 100-page catalog. Lyon Metal Products, Inc., 122 Monroe Avenue, Aurora, Illinois.

LYON® METAL PRODUCTS, INC.
DEALERS AND BRANCHES IN ALL PRINCIPAL CITIES

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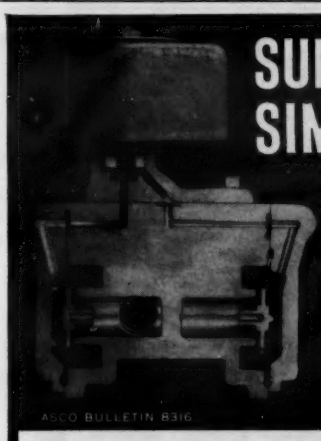
SUPER SIMPLE 3-WAY SOLENOID VALVES



ASCO BULLETIN 8316

NOW IN *NEW* PIPE SIZES

Only 3 moving parts for minimum wear: stainless steel core, two molded diaphragms.
Pipe sizes from ⅜″ through 1″, including new ¾″ and 1″ versions; **pressures** to 250 p.s.i.; for air, gas, oil and water; temperatures to 180° F.
Rugged forged brass body.
Absolutely tight seating on all fluids.
Write for illustrated Bulletin 8316, with full details, specifications and price schedule.

ASCO Valves ASCO

Automatic Switch Co. 54B HANOVER RD., FLORHAM PARK, N. J. • FRONTIER 7-4600

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MAYBE WE CAN DO IT BETTER AND FOR LESS

Hundreds of Companies have found us the Right Source of Metal-Fabricating

We have facilities, experience and engineering counsel which may meet your special requirements—exactly. Three large, well equipped plants at **Aurora, Ill., York, Pa. and Los Angeles** geared to economical production. Years of experience handling thousands of special items . . . products, parts, subassemblies, merchandising units, made to your specifications.

Modern equipment includes coil steel slitting, leveling and edging, press work, all types of welding, electrostatic finishing.

Send for 16-Page Illustrated Booklet
It tells All!

LYON METAL PRODUCTS, INC.
General Offices, 631 Monroe Ave., Aurora, Illinois

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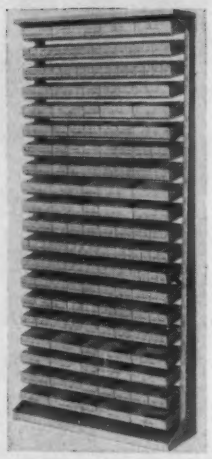
BORROUGHS
small parts BINS

have everything you want!



HERE'S PROOF . . . you get maximum storage in minimum space. Borroughs "Handee Andee" Small Parts Bins are nationally famous for compact, rugged, flexible utility. Everything's easy to see—easy to reach—easy to remove or replace. 3 standard heights—32", 56", 84". Each unit will hold 4 different sizes of slip-on, slip-off Bin Boxes in any desired arrangement. Bin Boxes have large label holders, curved bottoms and a convenient forward tilt.

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OF KALAMAZOO
A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3072 NORTH BURDICK ST. amp® KALAMAZOO, MICHIGAN

For more details circle NED-715 F1 on enclosed inquiry slip

First and Still the Finest SHAFT-KING Speed Reduction Drives by

In the popular SHAFT-KING SPEED REDUCTION DRIVES, American Pulley offers you the world's most complete line of shaft-mounted reducers. Whatever your application, you'll find a SHAFT-KING DRIVE to suit it perfectly: from F HP to 60 HP . . . in 5:1, 13:1 and 20:1 ratios . . . and for any drive speed from 5 to 350 RPM.

SHAFT-KING SPEED REDUCTION DRIVES are *performance-proved*, too. Since 1941, when American *pioneered* the shaft-mounted reducer, over 150,000 SHAFT-KING DRIVES have been installed.

Wherever you are, you'll find an American Pulley distributor nearby with a *complete* line of SHAFT-KINGS—and *every* model in the line available for immediate delivery from stock. See him soon—and get the whole "no wait—no waste — no worry" story on the *original* shaft-mounted reducer: *The SHAFT-KING by American Pulley.*

THE AMERICAN PULLEY COMPANY
4200 WISSAHICKON AVENUE • PHILADELPHIA 29, PA.
A division of VAN NORMAN INDUSTRIES INC.

For more details circle NED-716 F1 on enclosed inquiry slip

BORROUGHS
STEEL CABINETS

have everything you want!

HERE'S PROOF . . . they're styled and finished to complement any decor. They're designed and built for top efficiency and long, satisfactory service. You have a wide choice of models — open-face cabinets — sliding-door cabinets — swinging-door cabinets — in various heights and depths. Shelves are adjustable without nuts or bolts. Get more facts about Borroughs cabinets.

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3072 NORTH BURDICK ST. amp® KALAMAZOO, MICHIGAN

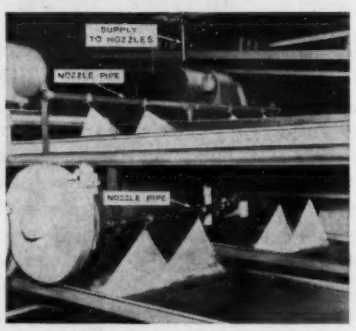
For more details circle NED-717 F1 on enclosed inquiry slip

UTILITY STORAGE BUILDING quickly assembled and dismantled

Storage of small and large tools, machinery, mobile equipment, and flammable products; on-site offices; and utility bins are among the uses for the Jiffy Room utility building. Made in five sections of ribbed, diamond embossed aluminum panels, it is assembled or dismantled in a few minutes using a screwdriver and pliers. It is weatherproofed and equipped with air vents, and may be safely heated or cooled. Four available sizes range from 4 ft 3 in. square to 8 x 16 ft. Height is 6½ ft. Seven baked-on enamel finish colors or natural aluminum are available. Accessories include plywood floors, windows, counter aluminum anchors, tool hangers, awnings, roof extensions, partitions, and one or two doors. • **L. S. Wilson Mfg. Co.**, 371 E. 116th St., Chicago 28, Ill.

For more details circle NED-718 F1 on enclosed inquiry slip

BELT CLEANING SYSTEM cleans 200-ft conveyor belt operating at 20 fpm in 10 min



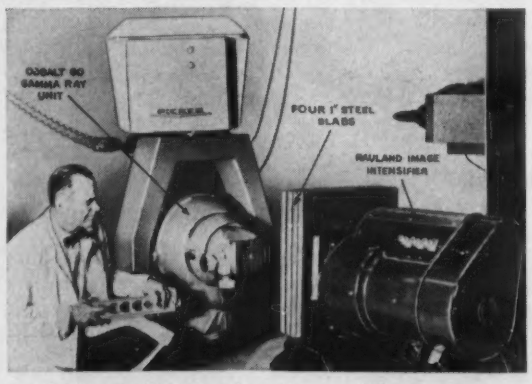
Operating on plant steam and cold water, the Sellers automatic conveyor belt cleaning system can clean a 200-ft belt operating at 20 fpm in 10 min. System consists of a 4000 gph hydraulic jet unit and multiple high pressure nozzles spaced across the width of the belt. Nozzles force strong jets of hot water and detergent against the belt surface at 125-150 psi.

Unusual venturi-injector design enables unit to combine plant steam, cold water, and detergent to deliver 180° F liquid at discharge pressures 2 to 20 times higher than input steam pressure. Velocity of liquid flow is 120 mph. Operation is automatic, and system can be used to clean steel mesh belts, metal elevators and elevator belts, as well as flat rubber belts. • **Sellers Injector Corp.**, 1600 Hamilton St., Philadelphia 30, Pa.

For more details circle NED-719 F1 on enclosed inquiry slip

GAMMA RAY IMAGE INTENSIFIER detects flaws in 4-in. thick steel and projects them on a TV screen

Used in conjunction with a Picker Orthicon camera and Cyclops Cobalt 60 unit, the Rauland gamma ray image intensifier system detects minute flaws in up to



4-in. thick steel and other dense objects and projects their images on a TV screen. It makes possible continuous, assembly-line inspection of dense materials which, heretofore, could only be inspected by gamma ray photographs.

In the inspection of 4-in. thick hot steel billets, operator in the control room can watch the slabs on a TV screen as they move along a conveyor. He can determine the exact location of each defect and shear off only as much steel as is necessary to cut off the flawed section. Other possible uses include inspection of finished rockets and observing the passage of molten metals through pumps and pipes. • **Rauland Corp.**, 4245 N. Knox Ave., Chicago 41, Ill.

For more details circle NED-720 F1 on enclosed inquiry slip

NEW PERFORMANCE
NEW POWER
NEW SAFETY

Master Power #408 Portable Air Saw

The proof is in the performance of this latest addition to the Master Power line of precision-built, power-packed air tools. Not only will the #408 Air Saw outperform anything you ever used before, but also it offers safety features no other portable saw can claim: little coasting on shut-off; no loading up of saw teeth; no shock factor; no deterioration, and many more. Cuts most anything. Get the full story. Write us today.

LOOK UNDER TOOLS—PNEUMATIC

Leading Distributors everywhere sell
MP Master Power
Master Power Corporation • Solon, Ohio
A *Black & Decker* Subsidiary

For more details circle NED-721 F1 on enclosed inquiry slip

HINT TO USERS OF HIGH CARBON STEEL WIRE

Save with Roebling's big, long-run bundles ... up to 3000 lbs in a coil. Wide range of sizes. And consistently true to specifications. Write for details to Roebling's Wire and Cold Rolled Steel Products Division, Trenton 2, New Jersey.

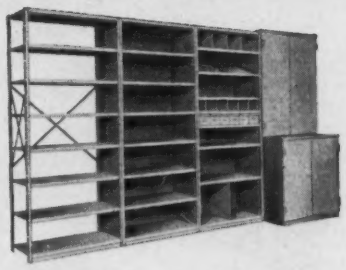
P.S. For upholstery springs, ask about money-saving SpringKote* Wire.

*Reg. applied for.

ROEBLING
Branch Offices in Principal Cities
John A. Roebling's Sons Division • The Colorado Fuel and Iron Corp.

For more details circle NED-722 F1 on enclosed inquiry slip

BORROUGHS
STEEL SHELVING
has everything you want!



HERE'S PROOF . . . it's the most simple, most flexible, most rapidly assembled shelving on the market today. It's tough, rugged and durable. Entire units can be assembled without special tools. Shelves can be adjusted without nuts or bolts. Each unit is complete in itself and can be moved without disturbing other units. And that's only part of the Borroughs shelving story . . . get more facts . . .

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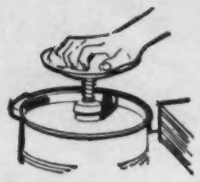
For more details circle NED-723 F1 on enclosed inquiry slip

APPLIES SOLVENT TO SWAB IN 2 SECONDS!!



saves time
saves solvent
reduces fire hazard

Workers can moisten cloth or swab with one hand by depressing spring mounted dasher, which pumps a measured quantity of liquid into dasher cap. Releasing dasher allows excess liquid to drain back into can to reduce evaporation losses and minimize the toxicity and fire hazards from flammable vapors. Waste motions are eliminated. Perforated metal fire baffle protects can contents from fire and explosion. Built for production-line use. Available in 5 sizes with dashers from 1" to 7" diameter. Factory Mutual Approved.

Write for Protectoseal Catalog—contains many time, labor-saving ideas for handling flammable solvents. No obligation.

THE PROTECTOSEAL COMPANY
1964 South Western Avenue Chicago 8, Illinois
IN CANADA: SAFETY SUPPLY COMPANY, TORONTO

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PREVENTS RUST AND CORROSION

Cabot's Flexiblac®

FOR IRON, STEEL, AND ALL OTHER METAL SURFACES — ¼ THE PRICE OF RED LEAD

The corrosion of exposed metal, an expensive and unsightly problem in industrial maintenance, is easily overcome with Cabot's Flexiblac, a tried and proven waterproof paint that applies with brush, spray or roller. Elastic, gloss black Flexiblac is non-toxic, resists heat up to 350°F, will not crack or scale, does not conduct electricity, and resists acids, alkalies, and chemical fumes. Flexiblac, with a wide range of applications, offers fast turnover and immediate profits for the dealer.

Write for prices and full information.

Samuel Cabot, Inc
632 South Terminal Trust Bldg., Boston 10, Mass.

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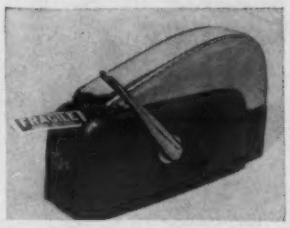
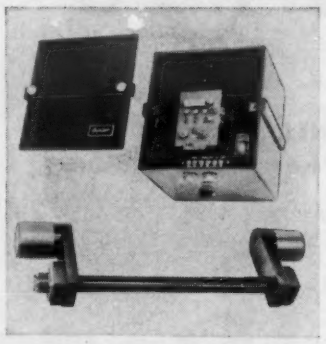
SEALING TAPE DISPENSER
also handles 1 x 3½-in. labels



Preprinted Itstik Perfect labels are dispensed with perfect registration and design location by the Model 210 National Perfect label dispenser. The sealing type tape is dispensed as product labels, warning stickers, markers, coding labels, routing stickers, and other uses. They are 1 in. wide by 3½ in. long and are delivered automatically moistened and cut by one stroke of the lever. Compact, lightweight dispenser may be carried under one arm and is operated by one hand. ○ Nashua Corp., 44 Franklin St., Nashua, N. H.

▲ For more details circle NED-727 F1 on enclosed inquiry slip ▲

ELECTRONIC CONVEYOR CONTROLS
transistorized for reliability



Maximum versatility and reliability are built into line of transistorized electronic control systems for high speed container and product conveyors. Standard units meet a wide variety of feed control and back-up protection applications. Instrument enclosures are designed to withstand severe environmental conditions involving moisture, dirt, vibration, and corrosive elements. ● Genisco, Inc., 2233 Federal Ave., Los Angeles 64, Calif.

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FIRE EXTINGUISHER
2½-lb dry chemical type

UL-rating of 4-B:C of this Kidde Kompact 2½-lb dry chemical fire extinguisher is equal to eight 1-qt carbon tetrachloride extinguishers. Unit is 14 in. high, 3 in. in diameter, and weighs 5 lb when charged. When extinguisher is picked up by the carrying handle, a safety lock automatically releases. Nozzle is then aimed at the base of the flame and discharge lever pressed. After use the empty powder container is simply unscrewed and replaced with a new pressurized cylinder which costs $3.95. Unit is provided with a fast-release clamping band bracket. ● Walter Kidde & Co., 675 Main St., Belleville 9, N. J.

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FREE!

If heat processing is your job— don't miss this "idea-packed" booklet

Never before have so many sound basic ideas on heat processing been available under one cover.

Written by engineering experts at Michigan Oven Company, it offers practical suggestions on what to look for in an oven regardless of your application.

Why not send for "The Handbook of Oven Facts"? It may be the most important decision you make today! Or, if you have a specific application, a MOCO representative will be pleased to call.

MICHIGAN OVEN COMPANY
419 Brainard, Detroit 1, Michigan

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GORTITE

Pliable protection, fabricated to order without molds—
BELLOWS . . . BOOTS . . .
SLEEVES . . . WAY-PROTECTORS!

All GORTITE, protective parts are fabricated from new, neoprene-base materials, nylon coated fabrics, fiberglass, Teflon, etc., to meet individual, service conditions: There are materials to withstand temperature extremes from —40°F., to 500°F., without cracking.

All GORTITE protective parts are impervious to oil, grease, dust, dirt, sand, chemicals and abrasives.

Bulletin AH-3 sent on request to—

A&A MFG. COMPANY INC.
712 S. 12th St.
Milwaukee 4, Wisconsin

ALL SHAPES AND CONTOURS—
BELLOWS . . . BOOTS . . . SLEEVES . . . WAY-PROTECTORS
FOR HYD. CYLINDERS, RAMS, JACKS, WAYS, ETC.

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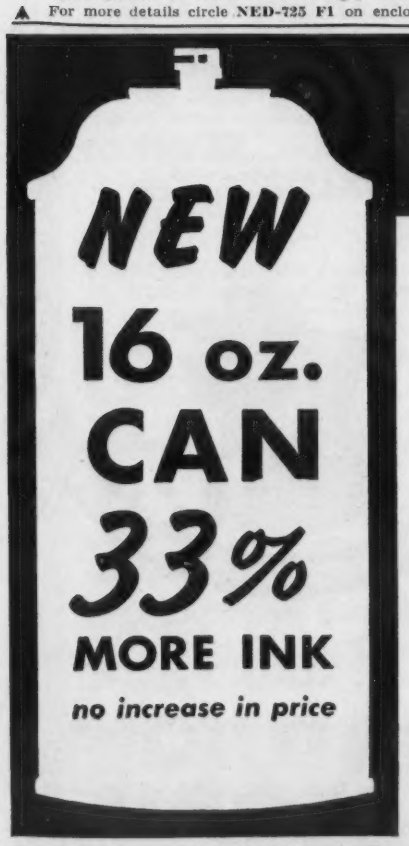

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Fast, Easy Stenciling on Steel, Wood, Paper, Fiber, Plastic, Stone, Glass and other Surfaces.

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● Unsurpassed for stenciling corrugated cartons, metal, paper, concrete, or other surfaces. Easy to hold aerosol container sprays a dense, compact cone of specially formulated waterproof ink. Very opaque. Dries instantly. 9 colors.

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REYNOLDS INK, Inc.
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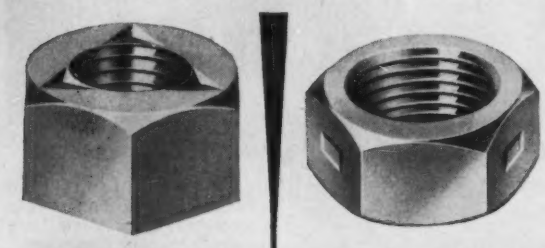
Use These 2 GRIPCO® LOCK NUTS to

• Resist vibration • Save production time
• Speed application • Lower in-place cost



GRIPCO TOPLOCK NUTS
Simple, one piece design, no inserts, no separate locking devices. They increase product durability at low initial cost, increase customer satisfaction.

GRIPCO CENTERLOCK NUTS
A new, low cost lock nut, can be applied from either end, double chamfered with locking feature in the center. Can be automatically fed, will lock wherever turned on bolt.

For better service, reliability and large stocks to ensure out-of-stock delivery on all catalogued items, use Gripco Fasteners on your products. Send for samples and NEW catalog today, or consult the yellow pages in your phone book under "GRIPCO" for the representative nearest you.

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GRIP NUT COMPANY
Subsidiary of Heli-Coil Corporation, Danbury, Conn.
106 Maple Ave. • South Whitley, Ind.
Phone: South Whitley 723-5111

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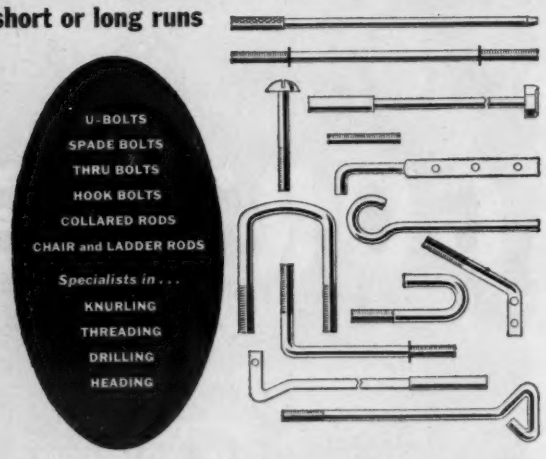
Complete Facilities for the manufacture of Special Headed and Threaded fasteners / from 1" to 60" in length in short or long runs



Send drawings or blueprints for quotes and literature.

OHIO ROD PRODUCTS CO., INC.
20265 1st AVENUE • BEREA, OHIO

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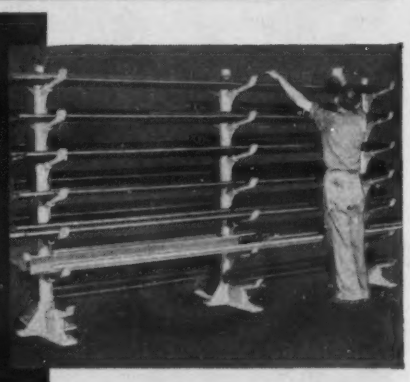
SAVE SPACE • SAVE TIME



Store and remove stock quickly—either by hand, fork truck or overhead crane — using the proved Brown Method for efficient storage. Brown Stock Racks, spaced as required, store more in less space . . . reduce handling from a long end haul to a short lateral movement. Stock is quickly visible for fast selection . . . easily accessible from the sides or ends.

Very low installation costs . . . all components are slip-fitted . . . no bolting or tools needed. Base brackets, trays and other accessories are available to increase usefulness. Both single arm wall racks and double arm racks are available.

Brown Engineering Co., 129 N. 3rd St., Reading, Pa.

■ Get complete data on Quick-Serve Racks. Write today for bulletin.

BROWN FLEXIBLE STOCK RACKS

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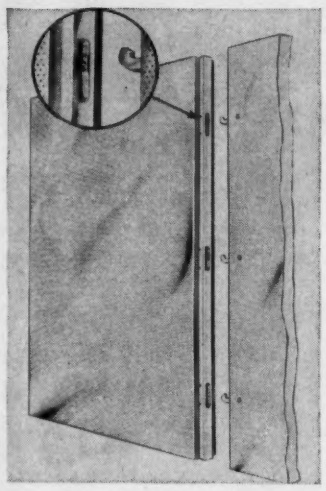
COPYING MACHINE accepts A and B Size drawings

Volume reproduction of engineering documents, operation sheets, parts lists, data sheets, letters, and other materials is possible on the semiautomatic Verifax copier. It accepts matrix in 11 x 17, 8½ x 14, and 8½ x 11-in. sizes and standard A and B Size engineering drawings. Translucent masters can be made from opaque or translucent originals for use on diazo machines. Two letter-size originals can be copied at the same time. Machine is 23 x 24 x 14 in., weighs 41 lb, and holds up to 100 sheets of copy paper in a tray with side guides and backstops. An 11 x 17-in. matrix dispenser is supplied with the machine; letter and legal sizes are optional. • **Eastman Kodak Co.,** Business Photo Methods Sales Div., 343 State St., Rochester 4, N. Y.

▲ For more details circle NED-735 F1 on enclosed inquiry slip ▲

ACOUSTICAL PANEL used as sound barriers, enclosures



Fire retardant, self-supporting acoustical core sandwiched to various sheet metals comprises the Series 10 Noiseguard panel, a 1-in. thick unit for use in modular construction. It is used as sound barriers and enclosures for the control of noise in industrial plants, offices, and laboratories. Sound attenuation properties are reported to be greater than some 4-in. thick panels, especially at low frequencies. Sheet metal surfaces are made acoustically "dead" by means of a viscoelastic sound and vibration damping coating. Latch-locks operated by a key join adjacent panels together with sufficient force to provide a positive seal and prevent noise leakage. Panels are 3 ft wide and 8 or 10 ft high. Cut-to-order floor channels are available. • **Korfund Co.,** 35P Cantiague Rd., Westbury, L. I., N. Y.

▲ For more details circle NED-736 F1 on enclosed inquiry slip ▲

BOILER VACUUM CLEANER KIT has special soot loosening tools

Much of the mess is taken out of boiler cleaning with a vacuum kit consisting of tools designed for use with either 9 or 12-gal blower vacs or in conjunction with 55-gal industrial vacuum. Kit is comprised of a paw tool for vacuum cleaning soot and scale from flat surfaces in the fire box; 2½ to 4-in. diameter boiler tube expansion scraper cones; a 5-ft wire brush; and a 28-in. steel crevice tool. Heavy-duty vacuum features a fire-resistant cloth filter. Push or pull type dollies are optional. The 55-gal model is also suited for wet pickup jobs, such as cleaning out sumps, dusting overhead pipes, and pick-up of dirt and metal scrap. Filtering system will trap even lamp black. • **American Floor Machine Co.,** 518 S. St. Clair St., Toledo 3, Ohio.

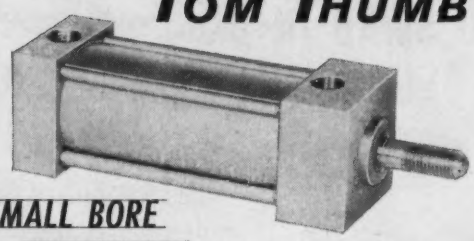
▲ For more details circle NED-737 F1 on enclosed inquiry slip ▲

Reciprocating Hand Machine

Engis Equipment Co., Hyprez Div.—Filing, lapping, honing, polishing, scraping, and sawing operations are performed by the Di-Profiler, a reciprocating hand machine described in illustrated Catalog EHD-101 of 8 pages. Application data are included, along with information on accessories. It has a direct drive speed of 14,000 rpm or gear drive of 5000 rpm.

▲ For more details circle NED-738 F1 on enclosed inquiry slip ▲

TOM THUMB



SMALL BORE CYLINDERS

AIR to 200 psi . . . . HYDRAULIC to 2000 psi.

- ¾" . . . 1" . . . 1⅛" BORES
- 8 MOUNTING STYLES
- IMMEDIATE DELIVERY

} FROM STOCK

TOM THUMB cylinders are precision-built for lasting dependability. Quality features include non-corrosive barrel; stainless steel piston rod; steel head and cap; piloted construction throughout. All bore-sizes available in single or double acting, single or double rod end, or tandem type.

NEW DESIGNERS' TOM THUMB BROCHURE
Mail card or letter today. You'll like this easy-to-use TOM THUMB helper.

SPECS. DWGS. DIMS. DATA

PNEUMATIC-HYDRAULIC DEVELOPMENT CO.
TOM THUMB DIV. . . . FORT WAYNE, INDIANA

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VIBRA-WASHER

. . . THE COMPLETELY NEW AUTOMATIC PARTS WASHER AND METAL CONDITIONING MACHINE

- **Labor saving**
- **Automatic unloading**
- **For single or multi-stage operations**
- **No nesting of parts during cleaning or conditioning cycle**
- **Adjustable capacities to 10,000 lbs. per hour**

The versatile new Simplicity VIBRA-WASHER, revolutionary machine for washing and conditioning of small metal parts, stampings and castings, employs a vibrating work carrier that automatically conveys parts through cleaning or conditioning bath. Solution is forced around parts, even into blind drillings and slots. In single stage, VIBRA-WASHER removes chips, oil and grease quickly . . . economically. In multi-stage, several units in line will provide cleaning, rinsing and phosphating, eliminating "between-stage" handling. Write today for Bulletin 107, to: Industrial Washer Division.

Simplicity
TRADE MARK REGISTERED
212 ENGINEERING COMPANY • DURAND 15, MICH.

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DO U BEND U BENDS?

Whether you bend "U" bends or other type bends from pipe, tubing, bus bar or structural metal, you'll bend it better, faster, more economically with Pedrick Production Benders.

PEDRICK TOOL AND MACHINE CO.
3640 N. Lawrence St., Phila. 40, Pa., Dept. 6.

"Why don't you send for the NEW PEDRICK LINE BULLETIN. Do it now."

BEND WITH PEDRICK

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carries a complete stock of

GAUGE GLASS and CYLINDERS

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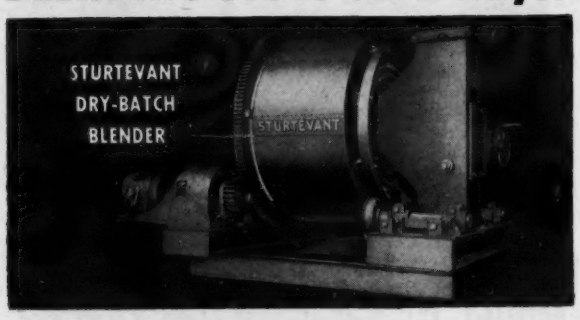
We have a complete stock of Pyrex Tubular Gauge Glass and Cylinders on hand for chemical, pharmaceutical or industrial applications. Supplied in any length or finish from 2 mm. O.D. to 7" O.D.

SWIFT *Glass Division*
SWIFT LUBRICATOR COMPANY, INC.
5 Glass St., Elmira, N.Y.

▲ For more details circle NED-742 F1 on enclosed inquiry slip ▲

BLENDING COSTS cut 2 ways!



1. PRODUCTION SPEEDED UP BY 4-WAY MIXING

2. SHUT-DOWNS SHORTENED BY "OPEN-DOOR" DESIGN

Batches from 500 to 40,000 pounds are completely blended regardless of varying weights, densities or fineness of different ingredients. No dust loss!

Four different vertical and lateral mixing actions do the job in minimum time. Single lever control of single gate speeds loading and discharging.

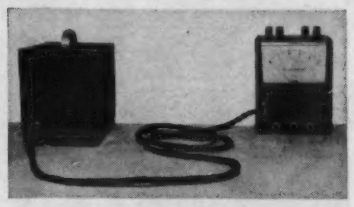
"Open-Door" accessibility for quick, easy cleaning and maintenance *plus* 75-year-tested rugged construction add up to more output per machine-year.

Write for Bulletins on Sturtevant Batch Blenders and other custom-built equipment listed below. STURTEVANT MILL CO., 114 CLAYTON ST., BOSTON 22, MASS.

STURTEVANT
Dry Processing Equipment
The "OPEN-DOOR" to *lower* operating costs over *more* years
CRUSHERS • GRINDERS • MICRON-GRINDERS • SEPARATORS
BLENDERS • GRANULATORS • CONVEYORS • ELEVATORS

▲ For more details circle NED-743 F1 on enclosed inquiry slip ▲

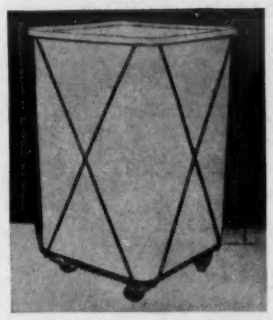
DC RELAY TESTER
has 0 to 250-ma current adjustment



All types of direct-current relays, magnets, small motors, and other magnetic devices can be checked and adjusted with Model 700 direct-current relay tester. It consists of an enclosed power supply operating from any 115-v ac line and a meter and control case which is connected to the power supply by an 8-ft cable. Meter consists of three current controls and three associated pushbuttons, each of which smoothly adjusts current from 0 to 250 ma. Test set is self-powered and electrically isolated for safe connection to wired units. • **Bliss Electronic Corp.**, Box 366, Sussex, N. J.

▲ For more details circle NED-745 F1 on enclosed inquiry slip ▲

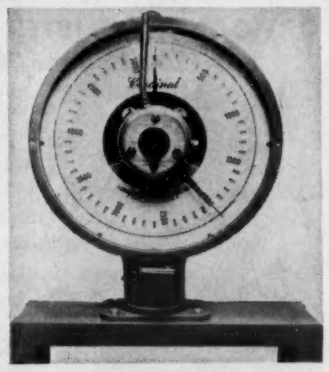
PLASTIC CONTAINERS
for bulk or parts handling



Line of molded polyethylene containers for handling bulk materials or parts and components includes units which stand 3 ft high and hold about 9 cu ft or 70 gal. Units are waterproof, chemical resistant, flexible, and tough enough for severe usage. They can be steam cleaned or sterilized for food storage. Containers are available in cylindrical and rectangular shapes in many stock sizes, and can be placed in caster-mounted frames for easy movement, or equipped with handles, lids, or legs. They can also be colored. • **Amos-Thompson Corp.**, SinTrex Div., Edinburg, Ind.

▲ For more details circle NED-746 F1 on enclosed inquiry slip ▲

SCALE CUT-OFF CONTROL
for scale-operated machinery



Easily field-installed on most dial-type scales without modification of the scale itself, the Microset 606 cut-off control automatically cuts off scale-operated machinery. Control can be operated by one man with simple dial setting and by pressing a button. It is equipped with a single or two stage cut-off. Several optional circuit arrangements can be provided. • **Cardinal Scale Mfg. Co.**, Webb City, Mo.

▲ For more details circle NED-747 F1 on enclosed inquiry slip ▲

FREE CATALOG...
MORSE 3/16"-PITCH CHAIN

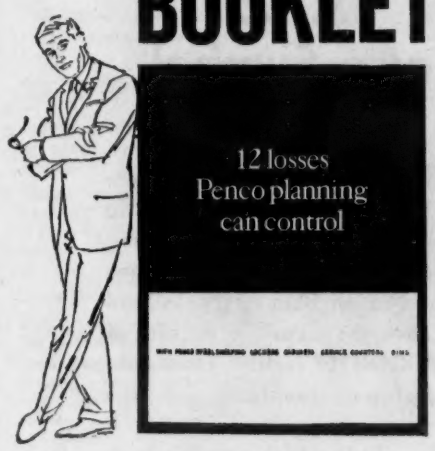
TOUGH, TINY SILENT CHAIN HANDLES UP TO 10,000 RPM!

Get more components into less space with Morse 3/16"-pitch Silent Chain. It transmits power smoothly as a belt at speeds up to 10,000 rpm, with 99% efficiency. Patented coupling link makes assembly and removal easy, permits design of fixed center drives without assembly problems. For full engineering data, write today for Catalog 3SC-58. MORSE CHAIN COMPANY, DEPT. 45-61 ITHACA, N. Y. A Borg-Warner Industry. Export Sales: Borg-Warner International, Chicago 3, Illinois.

MORSE
A BORG-WARNER INDUSTRY
IN POWER TRANSMISSION THE TOUGH JOBS COME TO BW

▲ For more details circle NED-748 F1 on enclosed inquiry slip ▲

NEW PENCO BOOKLET



How to control 12 costly plant losses with PENCO-PLANNED shelving, lockers, specialties...

- ☐ Waste Space
- ☐ Stealing
- ☐ Poor Inventory Control
- ☐ Slow Order Filling
- ☐ Shipping Bottlenecks
- ☐ Accidents
- ☐ Cleaning Costs
- ☐ Low Employee Morale
- ☐ Production Bottlenecks
- ☐ Excessive Damage
- ☐ High Insurance Costs
- ☐ Excessive Handling Costs

A brand-new, 16-page, illustrated thought-starter that gives proven guidance, informative facts, on how to use Penco storage equipment to reduce common plant losses.

If your company is considering new *shelving, lockers, cabinets, counters,* or *metal storage specialties,* read this Penco Planning Booklet before you buy! Read how to control up to 12 major drains on plant efficiency, profitability.

Request your copy now . . . free on request. Address Dept. F.

ALAN WOOD STEEL COMPANY
PENCO DIVISION
Oaks, Pennsylvania

▲ For more details circle NED-749 F1 on enclosed inquiry slip ▲

GRIPPER® metal-mesh SLINGS give you FLEXIBILITY for any lifting job

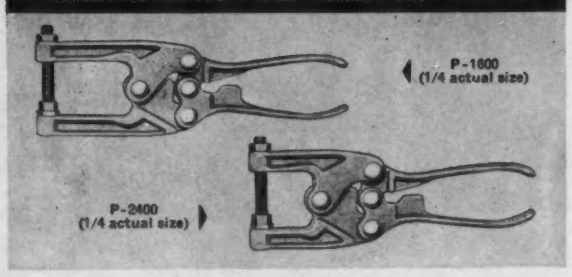
Notice how easily the Gripper Sling conforms to the edge of the coiled strip shown. It's this flexibility that makes Gripper Slings best for handling flat sheets, angular loads or small, irregular shapes as well as coiled strip . . . best because Gripper Slings won't "bite" into stock . . . won't chip, mar or score load edges. And, it's this flexibility feature that helps you save on handling costs because Gripper Slings won't kink or tangle . . . one man can rig or unhitch a load faster, easier.

Gripper Slings, pretested to meet load specifications, are available in standard lengths and widths with capacities up to 100,000 lbs. Special sizes, alloys or Neoprene or PVC plastic covered slings available. Write for FREE CATALOG and name of your nearest materials handling distributor.

The Cambridge Wire Cloth Co.
Department C • Cambridge 6, Md.

▲ For more details circle NED-744 F1 on enclosed inquiry slip ▲

Another step forward
***KNU-VISE* TOGGLE PLIERS with**
1600 & 2400 lbs. clamping force



In keeping with its reputation for providing the industry's most efficient toggle clamps and pliers, Lapeer Manufacturing Company has introduced new plier models—the P-1600 and P-2400 series.

Long and comfortable handles are a feature of these Lapeer Knu-Vise pliers. With average handload, these pliers provide a clamping force of 1600 and 2400 lbs. respectively. The P-1600 series has a throat depth of 2¼", and throat gaps of 1⅜, 3, 4 and 6 inches. The P-2400 series has a throat of 1¼" x 1¼". Each series is available with two opposing spindles. All models can be furnished with unlocking levers. The pliers are made from steel forgings, heat-treated, and cadmium plated.

Write for more information and remember—LAPEER KNU-VISE GIVES YOU MORE VALUE FOR YOUR MONEY.

Manufacturers of over 150 models of manually and air-operated clamps and pliers

KNU-VISE PRODUCTS | LAPEER MANUFACTURING CO.

3062 DAVISON ROAD
LAPEER, MICHIGAN

WESTERN DIV.: PECK and LEWIS CORPORATION
4436 Long Beach Ave., Los Angeles 58, Calif., ADams 3-7146
CANADIAN DIV.: HIGGINSON EQUIP. SALES LTD.
1131 Pettit Road, Burlington, Ontario

▲ For more details circle NED-750 F1 on enclosed inquiry slip ▲

The Story in Back of a Symbol

Begin with a coil for perceiving electrical changes. Add two arrows and convert sensing ability into action. Now, enclose in an ohm ... and you have the signature of the REGOHM® family. These controls, of pure simplicity and reliability, are being used in over a million individual applications throughout the world.

Consider one fast-rising scion of the family tree—the REGOHM Transducer. If you would like to make a mosquito move a mountain, the transducer will bring you close to the summit. A few grams of force causing less than ⅛ inch movement effects direct control at the ¼ kw level.

Performance like this can significantly reduce costs in many control systems: Position, Tension, Weight, Loop, Speed, Pressure and others.

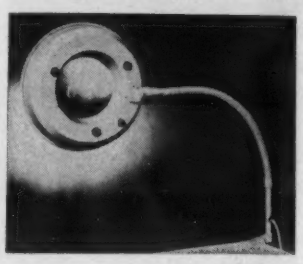
ERC Engineers are ready to assist you with your application. To learn more about the REGOHM Transducer, contact:

ELECTRIC REGULATOR CORPORATION
NORWALK, CONNECTICUT

"leaders in automatic control and regulation"

▲ For more details circle NED-751 F1 on enclosed inquiry slip ▲

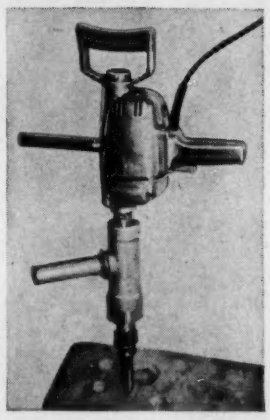
MAGNIFYING LAMP
gooseneck unit has fluorescent lamp



Useful for benchwork in laboratories, shops, and assembly lines where space is limited, the Model M-4 Inspector magnifying lamp incorporates a gooseneck stem for all-directional flexibility. It combines a 22-w shadow-free Circline fluorescent lamp and a 5-in. diameter precision magnifying glass with a 13-in. focus. The 15-in. long stem has a swivel joint head for easy positioning. A swivel shade directs light on the part being magnified. Permanent, table, and wall clamps are offered with the lamp, available in three colors. Lenses of higher magnification are optional. ● **Swing-O-Lite, Inc.,** 13 Moonachie Rd., Hackensack, N. J.

▲ For more details circle NED-752 F1 on enclosed inquiry slip ▲

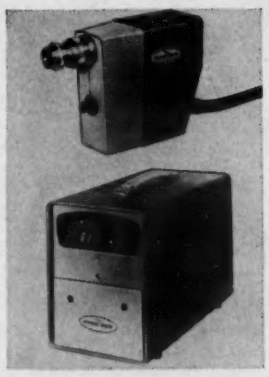
IMPACT DRILL ATTACHMENT
adapts tool for masonry drilling



Rotary impact drill attachment shown attached to a ½-in. portable electric drill facilitates fast, easy drilling of holes in concrete, cement block, fire and face brick, and tile. It can also be attached to ⅝ and ¾-in. drills and will drill ⅝ to 1-in. holes. Using core drills, it will drill 1 to 5-in. holes. Smaller unit is offered for drilling 3/16 to ⅝ in. holes. Complete kits selling for $39.50 include a chuck-in or screw-in attachment; 3/16, ¼, ⅜, and ½-in. bits; and an adaptor bushing for the bits. ● **Haines Tool Co.,** 6536 Carnegie Ave., Cleveland 3, Ohio.

▲ For more details circle NED-753 F1 on enclosed inquiry slip ▲

OPTICAL PYROMETER
has 1200 to over 7000° F range



Continuous recording and control of temperatures in a range from 1200 to over 7000° F are possible with the PYRO-650 optical brightness pyrometer. Instrument is applicable for precise temperature measurement of exotic metals, as well as for physical property studies relating to optimum rocket and rocket engine performance. It also has many uses in metals, cement, ceramic, glass, and refractory materials industries where operations are carried out at high temperatures. Automatic operation assures close process control and good repeatability. ● **Instrument Development Laboratories, Inc.,** 67 Mechanic St., Attleboro, Mass.

▲ For more details circle NED-754 F1 on enclosed inquiry slip ▲

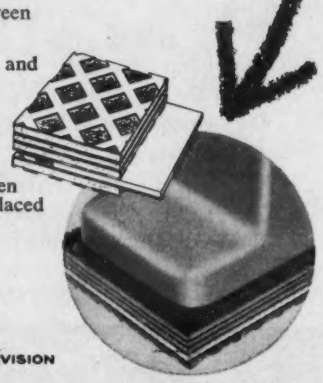
ELECTRIC LIFT TRUCK
compact unit for light industry use

Three-wheel Model RST-20 electric lift truck has rear wheel drive and steering that turns at a right angle to the load or front wheels. This feature saves up to 5 in. of aisle space and contributes to maneuverability in tight quarters. Truck is made in 2000, 2500, and 3000-lb capacities with a 68-in. high mast that can stack loads to 105 in. yet enter low doorways or trucks. The compact 33¾-in. wide unit has foot-operated controls for lift, tilt, travel, and braking. Four timed speeds forward and reverse are standard. The adjustable foam rubber seat is ventilated for operator comfort. ● **Automatic Transportation Co.,** 149 W. 87th St., Chicago 20, Ill.

▲ For more details circle NED-755 F1 on enclosed inquiry slip ▲

AIR-LOC
MACHINE MOUNTING PADS
... positive vibration control at lowest cost

- Easily installed without cement or bolts
- For leveling, shim between top and bottom pads
- Vinyl impregnated cork and sisal resists oils, alkalies and acids
- Machines held firmly in place — no "walking"
- Air-Loc is re-usable when machine is moved or replaced

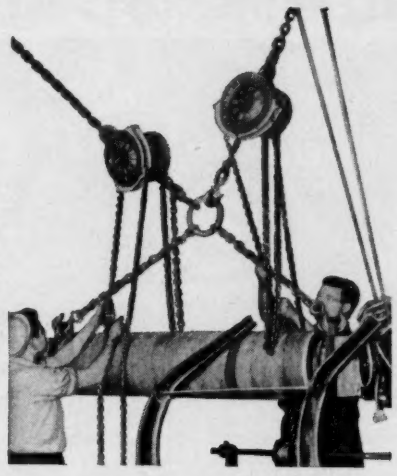


Write for full information and sample.

Air-Loc® DIVISION
Clark, Cutler, McDermott Company
5 WEST CENTRAL ST. • FRANKLIN, MASS.

▲ For more details circle NED-756 F1 on enclosed inquiry slip ▲

TOUGH HOISTS FOR ROUGH JOBS
PEERLESS MODEL C



These spur gear hand chain hoists take the tough jobs in stride and then come back for more rough work without letup. They are designed and built to withstand neglect and hard handling; to give long trouble-free service; to require minimum maintenance and repair; to provide maximum safety for operating personnel.

Available in ¼ to 60-ton capacities. See your local Harrington-Peerless distributor for details. Or write for a copy of Catalog R.

THE HARRINGTON COMPANY
Plymouth Meeting 16, Pa.

▲ For more details circle NED-757 F1 on enclosed inquiry slip ▲

1 or 1,000,000

-every
PALNUT LOCK NUT is Dependably Uniform!
--in dimensions--in spring tension--in assembly characteristics --in dependable locking action

PALNUT Lock Nuts are mass-produced in huge volume at low cost on the most modern equipment. Quality is rigidly controlled by inspections at every step of production. Result: Each PALNUT assures your assemblers of precision thread fit—uniform hex shape—easy wrenching—free turning—accurate torquing, to speed up assembly and reduce rejects.

Learn how PALNUT Lock Nuts can cut your assembly costs, reduce fastening parts and assure vibration-proof tightness. Send details of your application for free samples and latest catalog.

THE PALNUT COMPANY, 45 Glen Road, Mountainside, N. J.
DIVISION OF UNITED-CARR FASTENER CORPORATION
Canada: P. L. Robertson Mfg. Co., Ltd., Milton, Ont.

PALNUT® Lock Nuts and Fasteners
for quick, secure fastening at low cost

▲ For more details circle NED-758 F1 on enclosed inquiry slip ▲

PROVEN... BACKUS CUT-OFF MACHINES

For High-Speed Cutting of All Types of Metals and Materials At Any Angle!

Ill. Model 1260

Backus Cut-Off Machines make the finest precision cuts on any material, at any angle, to meet your most exacting cutting requirements. Precision engineered, these machines — complete-ready-to-operate — combine sturdy construction with the exclusive Backus leverage control. SEE YOUR MACHINERY DEALER OR WRITE TO BACKUS FOR BROCHURE!

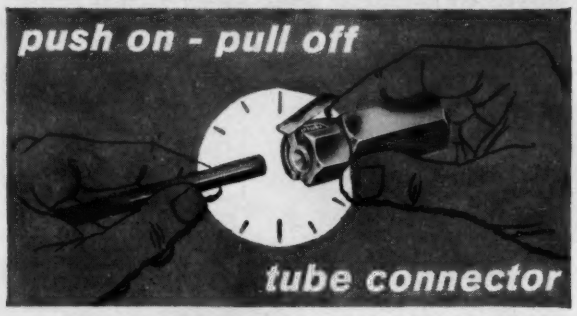
8", 10" & 12" Abrasive and Non-Ferrous Models

BACKUS MACHINE WORKS

Since 1914 ROUTE 17 DEPT. NED CARLSTADT, N. J.

▲ For more details circle NED-759 F1 on enclosed inquiry slip ▲

AUTOMATIC LOCKING



Instantly connects pressure and vacuum lines to straight end tubing

Simply push the Connector over end of tubing and press to "stop" position. This AUTOMATICALLY locks tubing into place for a leak-proof seal. To unlock, press Thumb Pad and pull Connector off. For any pressure to 1000 psi; vacuum up to 25 microns. Rugged, simple, fool-proof, it saves time and labor. One end tapped for inlet connection. Stock sizes for ⅛" to 1½" OD tubing. Other sizes to order. Write for Catalog and prices.

for AIR WATER, STEAM, FREON, etc.

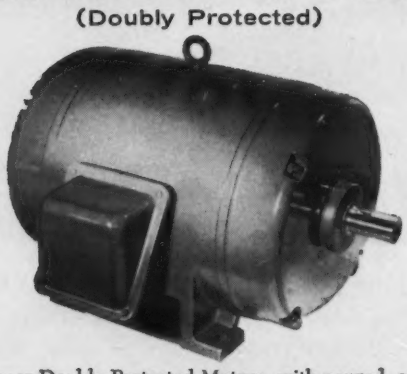
mp MECHANICAL PRODUCTS CORPORATION
1724 West Hubbard Street, Chicago 22, Illinois

▲ For more details circle NED-760 F1 on enclosed inquiry slip ▲

For protection against corrosion... protection against splashing liquids

WAGNER DP MOTORS

(Doubly Protected)



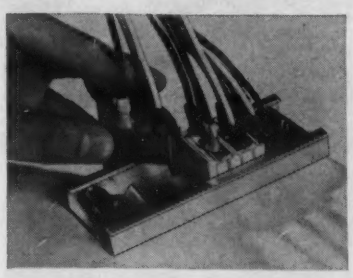
Use Wagner Doubly Protected Motors—with rugged, corrosion-resistant cast iron frames and dripproof enclosures—in spots that once required splashproof motors. Get longer motor life, more versatility of application. DP Motors are built in NEMA frame sizes 182 through 445U; RP Motors, in frames 504 and larger, are available in ratings through 1000 hp. All are available with either ball bearings or steel-backed babbitt-lined sleeve bearings. Contact the nearest Wagner branch office.

Wagner Electric Corporation WM60-6
6435 PLYMOUTH AVE., ST. LOUIS 33, MO.

▲ For more details circle NED-761 F1 on enclosed inquiry slip ▲

MODULAR TERMINAL BLOCK

track-mounted cages accommodate up to four circuits per lineal inch



High wiring density is afforded by the Termi-Blok modular terminal block which is comprised of insulated cage assemblies which fit into an extruded aluminum track. Designed for electrical control distribution and power control circuits, Series 3 and 4 cages will accommodate three and four circuits per lineal track inch, respectively. Modules can be front loaded.

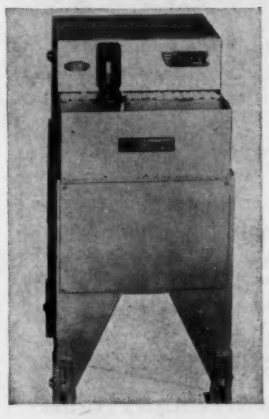
Cage assemblies of either 3 or 6 circuits accept tabbed terminals which have withdrawal forces from 5 to 20 lb. Cages can be added anywhere in the stack by unlocking the end-locks with a screwdriver. They are available in 10 colors of nylon insulators. Plain or PVC-coated track comes in 6-ft length and can be hacksawed to length.

Termi-Blok has a 35-amp continuous current rating, or maximum wire temperature of 105° C, 125 per cent current cycling overload capacity, and an insulation resistance of 1500 v dc at sea level. Corrosion and humidity resistances comply with MIL-T-7928C. • AMP Inc., Eisenhower Boulevard, Harrisburg, Pa.

▲ For more details circle NED-762 F1 on enclosed inquiry slip ▲

AUTOMATIC CHECKWEIGHER

classifies and separates up to 200 packages per minute



Compact Model 1205-S Selectrol checkweigher will automatically weigh, classify, and separate packages by correct, over, or under weight at speeds up to 200 per minute. Unit is 22 in. long, 20 in. deep, and adjusts in height from 35 to 40 in. Standard models weigh packages up to 12 oz and have a removable scale with 1:1-ratio even balance lever that assures high sensitivity with little effect from floor vibrations.

Other features include plug-in transistor amplifiers, a power supply using printed circuits, dust and moisture tight enclosure, and a Mylar weigh belt. Available options are intake conveyor belts; a discharge section with segregating gates, gravity feed, recorders, counters; and visual and audible signalling devices. Electrical output can be used to control machinery or processes remotely. • Exact Weight Scale Co., 541 E. Town St., Columbus 15, Ohio.

▲ For more details circle NED-763 F1 on enclosed inquiry slip ▲

For the power you want... at the speed you need

WAGNER GEARMOTORS

Use Wagner Gearmotors wherever you need "slower-than-motor speeds." Built to operate for years at peak efficiency, they have "high hardness" gears to provide greater power transmission capacity, longer wear life, greater resistance to shock. Motors and gear housings are of corrosion-resistant cast iron. Available with latest NEMA Frame open protected or totally enclosed fan-cooled motors. Contact your nearby Wagner branch, or write for Bulletin MU-227.

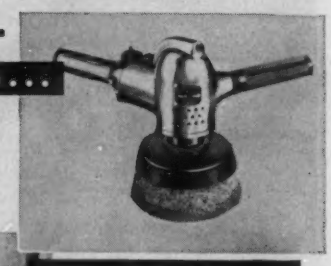
Wagner Electric Corporation WM60-8
6435 PLYMOUTH AVE., ST. LOUIS 33, MO.

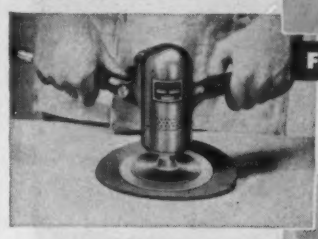
▲ For more details circle NED-764 F1 on enclosed inquiry slip ▲

there's an AIRETOOL Pneumatic Grinder for every job...

ROUGH GRINDING...

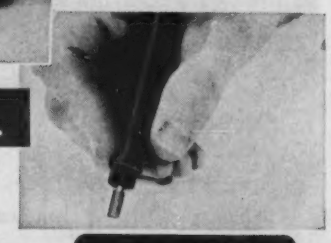
Models 600 and 700, vertical and horizontal, with speeds up to 8000 r.p.m., handle general grinding, wire wheel work, snagging and buffing, fast and efficiently. Easy op-operation. Muffled motors available.





FINE FINISHING...

Model 500-V for fast, vibration-free, feather-edge sanding and fine metal finishing. Speeds up to 4000 r.p.m.



INTRICATE DIE GRINDING...

Models 200-G and 300-G for precision grinding, filing and cutting at vibrationless speeds of 60,000 and 38,000 r.p.m. Available with muffled motors. Models 400-G and 500-H for large die work.

When you want production and precision... you need Airetool. Write for Bulletin 70.

AIRETOOL MANUFACTURING COMPANY SPRINGFIELD OHIO

Representatives in principal cities of the free world

▲ For more details circle NED-765 F1 on enclosed inquiry slip ▲

SPECIAL TOOLS FOR SPECIAL JOBS 2

K-D 446X EXTERNAL SNAP RING PLIERS TO RAISE PRODUCTION LINE EFFICIENCY

Adjustable jaw stop permits setup to easily handle one ring size over and over

Adjustable handle stop prevents overexpansion of rings

- Sturdy tempered steel construction assures thousands of flexings without loss of precision
- Interchangeable tool steel points have reverse taper shanks to grip rings surely and firmly
- Popular size point sets come with tool—.039, .047, .074 in.—15°, 45° and 90° angles for easy insertion
- Point sizes .020, .060, .090 in. also available

One more solution to a problem job in industry by K-D Tools—the nation's largest maker of quality specialty tools for professional auto repair and maintenance.

Watch for K-D's solution to your problem!

K-D TOOLS Making Hard Jobs Easy Since 1919

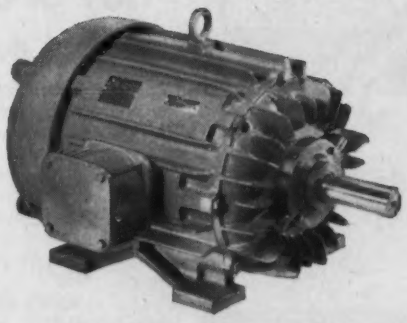
K-D MANUFACTURING COMPANY
Lancaster, Pa.

▲ For more details circle NED-766 F1 on enclosed inquiry slip ▲

For extra protection against corrosive, abrasive... or explosive elements

WAGNER TEFC MOTORS

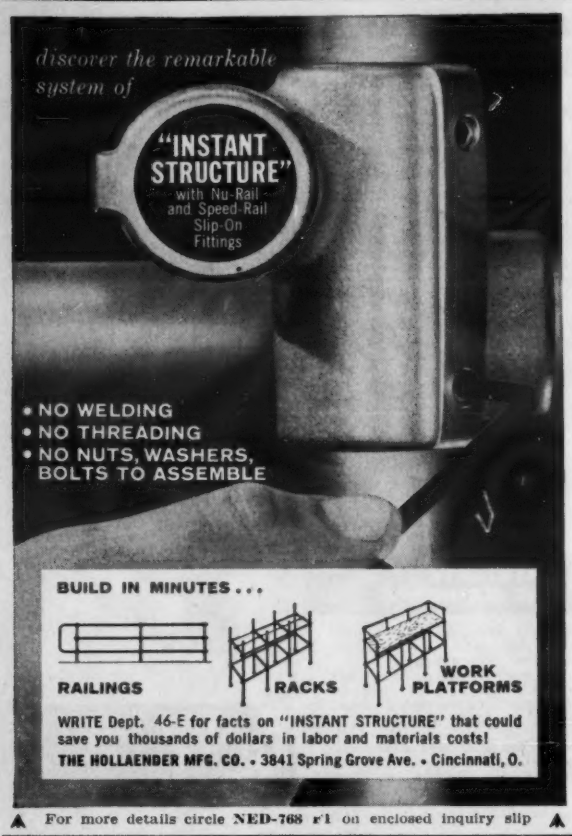
Standard or explosion-proof



Wagner Type EP Motors offer protection against corrosion, dust, abrasives, fumes, steel chips or filings... deliver full-rated horsepower under toughest service conditions to keep production rates up. Type JP is explosion-proof as well. Built in NEMA frame sizes from 182 through 445U, with ribs that add mechanical strength and increase surface cooling area. Type YP and ZP, tube-ventilated motors, are available in higher hp ratings. Contact your nearby Wagner branch office.

Wagner Electric Corporation WM60-7
6435 PLYMOUTH AVE., ST. LOUIS 33, MO.

▲ For more details circle NED-767 F1 on enclosed inquiry slip ▲



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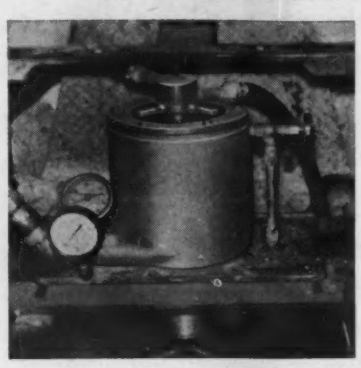
CONTINUOUS CAST BILLETS
made in hollow and cored shapes



Billets produced of copper and copper base alloys by the Lobeck continuous casting process have a sound internal structure and a high surface finish that requires no interior or exterior finishing. Technique produces hollow billets and similar cored shapes, using water cooled molds and mandrels. Mold and mandrel assembly shown is for 6½-in. OD by 2½-in. ID silicon bronze billets. Suited for fully or semicontinuous casting employing the direct chill casting method, the mold mounting used assures close concentricity tolerances. • **Lobeck Casting Processes Inc.**, 114 E. 32nd St., New York 16, N. Y.

▲ For more details circle NED-771 F1 on enclosed inquiry slip ▲

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JERGENS TOOL SPECIALTY CO.
Dept. NE-6, 712 E. 163rd St., Cleveland 10, Ohio

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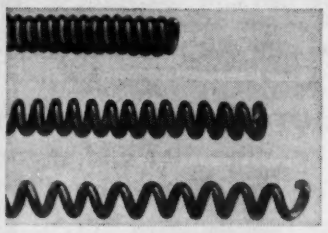
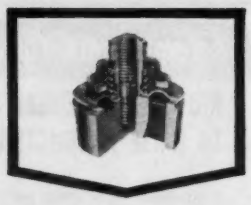
RETRACTILE COIL CORDS
neat in appearance and save space



Ability to withstand constant heavy duty use and resistance to oil and weather damage are features of these neoprene jacketed retractile coil cords. They maintain their permanently coiled spring shape until used to minimize entangling and twisting, present a neat appearance, save space, and extend only to the length wanted. Power cord sets with male plugs have a retracted length of 18 in. and a 7½-ft extended length. Communication coil cords are 4 ft long retracted and 25 ft extended. Retractile test lead wire is 6 ft long extended and retracts to 12 in. Communication cord has shields of cadmium copper and may be pigtailed for direct soldering. • **Alpha Wire Corp.**, 200 Varick St., New York 14, N. Y.

▲ For more details circle NED-772 F1 on enclosed inquiry slip ▲

fast valve action



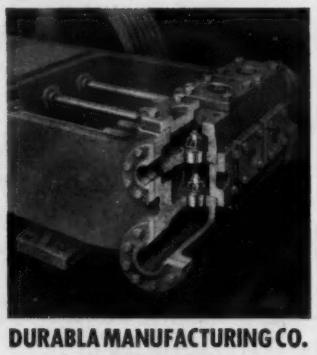
points the way to high-speed pump efficiency

DURABLA Valves are ideally suited to modern high-speed reciprocating pumps. One big reason: Valve action is very sharp, thanks to a light-weight, free-moving member.

Formed from thin, noncorrosive metal, the valve member is designed to make but "point contact" on the sleeve. This unique feature, together with the patented arched design, makes it the freest moving and most durable valve available.

Working parts are quick and easy to inspect (stud and seat removal are not necessary). New taper-lock stud can be removed and returned to position without danger of overstressing which could cause subsequent breakage.

For full details, send for booklet NED 61. DM-40



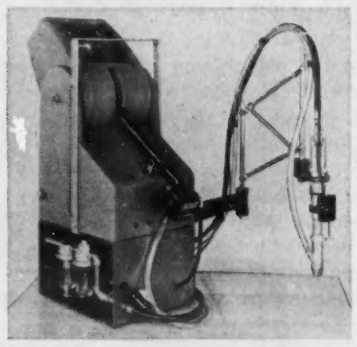
DURABLA MANUFACTURING CO.
114 Liberty Street
New York 6, N. Y.

DURABLA®

Manufacturers of DURABLA sheet packing, gaskets and check valves.

▲ For more details circle NED-769 F1 on enclosed inquiry slip ▲

PORTABLE TOOL MOUNT
for automatic screwdriving systems



This Radarm portable ball-bearing tool mount will accommodate all models of Tru-Tork automatic screwdriving systems. It moves at the slightest touch and holds the tool in a vertical position at all times. Device can also be used with other tools such as drills, tappers, and impact wrenches for bench, assembly line, and other operations. Worker fatigue is minimized. • **Clyde Engineering & Mfg. Co.**, 937 E. Ten Mile Rd., Madison Heights, Mich.

▲ For more details circle NED-773 F1 on enclosed inquiry slip ▲

ADJUSTABLE BLEED

FOR SHIFTING MASTER VALVES

The NEW MEAD #408 INTERLOCK LIMIT VALVE bleeds only enough air to shift a differential pressure master valve, then closes automatically. Bleed duration can be varied to meet most circuit requirements. Flow direction can be changed even while a companion limit valve remains actuated.

ASK YOUR MEAD MAN about 24-hour service on most MEAD products . . . 48 hours on special orders.

PRODUCTS FOR AUTOMATION
MEAD
FLUID DYNAMICS
A DIVISION OF MEAD SPECIALTIES CO.
4114 N. KNOX AVE., Dept. 1261, CHICAGO 41, ILL.

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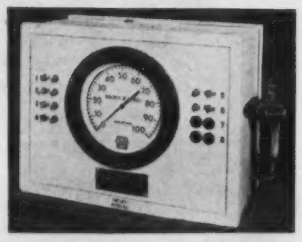
LIQUID LEVEL INDICATOR
for corrosive, noncorrosive liquids



Selector switches enable the Select-O-Graph remote liquid level indicator to give instantaneous readings on a 12-in. dial for up to eight tanks on one model and up to 16 tanks on a second model. Pilot lights indicate the tank being read. Indicator can be located up to 500 ft from nonpressure tanks containing corrosive or noncorrosive liquids and will read any level up to 33 ft. A visual bubble indicator mounted on the side of the unit acts as a cross check. The prewired indicator is contained in a 10 x 21 x 16-in. steel cabinet. Inexpensive plastic tubing connects it with the tanks. Dial calibrations suit individual requirements. • **Barnard & Leas Mfg. Co.**, 1200-34 12th St. S.W., Cedar Rapids, Iowa.

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BLOW COOL AIR TO HOT SPOTS without ducts!

Maintain production by reducing heat fatigue of men working on hot jobs. Exclusive design nozzle projects a concentrated stream of cool air as far as 74 feet **without costly ducts.** Can be mounted on ceiling, column or floor stand. "HY-V"® Air Jets cool machines and materials, as well as men. Address Dept. NED-661 for Catalog.

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DE BOTHEZAT FANS DIVISION OF
American Machine and Metals, Inc.
EAST MOLINE, ILLINOIS

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Inexpensive Hand-Propelled Crane with Chain Hoist

If hard, back-breaking work is required on the part of several men to move a machine in your plant, you should seriously consider either hand-propelled or electric Cleveland Tramrail cranes. Work that requires hours can often be done in minutes with an overhead crane. Many cranes pay for themselves in only a few months time.

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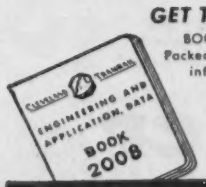

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6636 East 285th Street, Wickliffe, Ohio

CLEVELAND TRAMRAIL

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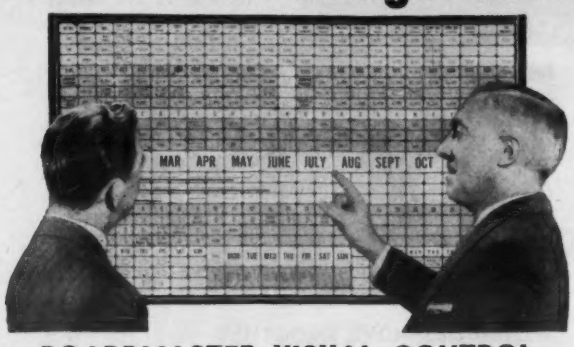

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AIR-MITE AIR CYLINDERS

AIR-MITE Cylinders—made in Single or Double Acting Series, in 4 mounting types, are high quality cylinders at a low price. Simple, rugged design and compact construction give them long life, permit easy mounting on jigs, fixtures, tools, or machines. Used wherever power holding, pushing, pulling, or lifting is required, AIR-MITE Cylinders will meet your most exacting requirements of dependability and long life. Write for complete catalog and prices.

QUALITY FEATURES:
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2. Brass, true-bore cylinders
3. High strength aluminum alloy cylinder heads
4. Bronze oilless ram bushing
5. Five steel tie rods

92

AIR-MITE DEVICES, INC.
4403 W. Kinzie St., Chicago 24, Ill.

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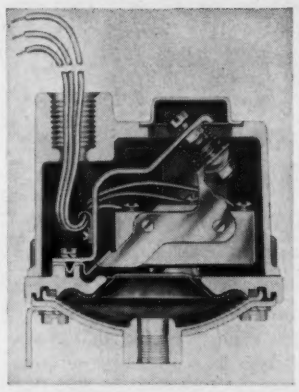
PLASTIC BAG SEALER
seals over 2000 bags per hour

Loaded polyethylene bags from 1 to 14 in. wide and up to 18 in. long are heat sealed at a rate of more than 2000 per hour by the Seal-A-Bag Automatic. Machine produces a fine beaded seal which can be regulated in strength from "easy-open" to "tight-weld." Scrap is trimmed and blown away as the bag is sealed. Machine quickly adjusts for different size products and can be fed directly from a semiautomatic bagging machine, an external conveyor, or by hand loading. Sample bags can be made by turning switch to "manual." Unit weighs 110 lb, stands about 3 ft high, plugs into standard grounded 115-v socket, and draws less than 250 w. • **American Engineering & Design Corp.**, 175 Howard St., New London, Conn.

▲ For more details circle NED-781 F1 on enclosed inquiry slip ▲

DIAPHRAGM PRESSURE SWITCHES
ranges from vacuum to 400 psi



Accuracy of ±0.5 per cent is afforded by line of diaphragm pressure switches which consist of a standard body to which interchangeable contact elements, capsules, terminal block housings, and explosionproof housings can be attached. Adjustable ranges from vacuum to 400 psi are available, with proof pressures up to 600 psi. Basic body forms a protective capsule around the diaphragm and permits the use of an almost unlimited variety of diaphragm metals and thicknesses. Standard pressure connection is a ¼-in. NPT female pipe fitting, although ½-in. fittings are obtainable. • **Barksdale Valves**, 5125 Alcoa Ave., Los Angeles 58, Calif.

▲ For more details circle NED-782 F1 on enclosed inquiry slip ▲

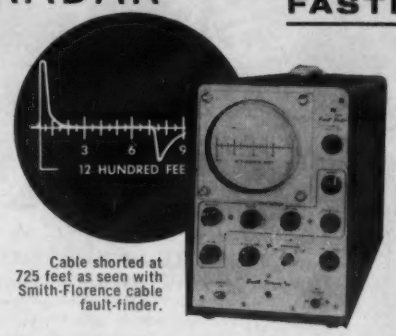
Hydraulic Bending Presses

Pines Engineering Co.—Parts made of tubing, pipe, rod, bar, and certain shaped stock are rapidly and efficiently bent by the eight Pines bending presses described in illustrated Bulletin 379. Capacities range from 1-in. OD by 0.065-in. wall steel tubing to 3½-in. OD by 0.125-in. wall steel tubing. Models that form two bends at a time in several tubes with each stroke are included in line.

▲ For more details circle NED-783 F1 on enclosed inquiry slip ▲

Cable Faults?

RADAR FINDS THEM FASTER



Cable shorted at 725 feet as seen with Smith-Florence cable fault-finder.

4

SMITH-FLORENCE electronic fault-finders speedily solve electrical cable servicing problems by giving you a "picture" of exactly where the trouble is and what it is. Using the radar principle, these dependable S-F instruments permit accurate ranging from *only one end of the cable* to pinpoint shorts and open circuits. S-F offers a variety of models with ranges from 200 feet to 100 miles for servicing in missiles, aircraft, ships, industrial plants and communication systems. Prices: $375 to $695.

Get more details—including how you can use S-F fault-finders for other important jobs—by writing to:

SMITH-FLORENCE INC.
4228 TWENTY-THIRD AVENUE WEST, SEATTLE 99, WASHINGTON

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- color code enamels
- marking enamels
- ASA machinery gray enamels
- wrinkle finishes
- high-heat aluminum
- zinc chromate primer
- gray primer-surfacer

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- open gear and wire rope lubricant
- light oil lubricant
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- dry graphite lubricant
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- clear plastic
- silicone mold release
- red insulating varnish-enamel
- battery terminal protector
- blue layout fluid
- layout fluid remover
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Which of these self-spraying products can you use?

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Sprayon AEROSOLS FOR INDUSTRY

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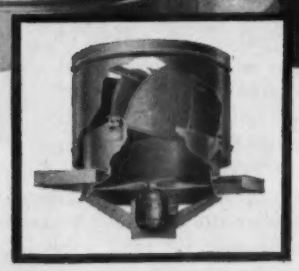
RAIN CAN'T ENTER SKY-BLAST® ROOF VENTILATORS!



Powerful exhaust keeps out rain, snow, sleet. SKY-BLAST needs no throttling weather covers, so more air is moved at less cost. Wind velocity or direction can't affect performance. At rest, butterfly dampers form watertight seal. Other weatherproof features include: galvanized heavy gage steel surfaces . . . nonclogging rainshed . . . low wind guard . . . rugged base and condensate drain. Ratings to 78,000 CFM. Write for Bulletin 680-NE

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Div. of ROBBINS & MYERS, INC., SPRINGFIELD, OHIO

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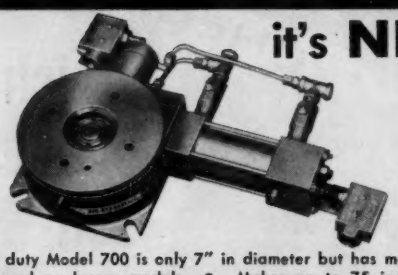
LOW COST 7" INDEX TABLE

it's NEW



The heavy duty Model 700 is only 7" in diameter but has most of the features found on larger models • Makes up to 75 indexes per minute • Handles maximum work load of 100 lbs. • Maximum power stroke is 3 times line pressure • Operates on pressures from 60 to 175 p.s.i. • Clockwise rotation with either 4, 6, 8 or 12 stations standard • Others up to 24 stations and counter-clockwise rotation, to order • Bolt larger sub-plate (up to 14" dia.) to ground steel table for larger work area • Positive index—no override • Adjustable cushion and speed control • Each table checked for guaranteed accuracy of index (± .0015"), concentricity and parallelism.

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Try a new Alsop Portable AIR Motor Mixer, ⅛ thru 1 H. P. for most liquids from low to medium viscosity. Used safely with flammables, acids or in explosion proof atmospheres. Compressed air operation eliminates dangerous sparking. Ruggedly constructed for batch mixing. Only ⅓ as heavy as equal capacity mixers. Shaft and propeller available in carbon steel, stainless, special alloys and coatings. Standard units 500 and 1800 RPM. Variable speed operation available.

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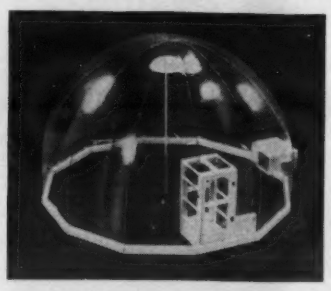
NEW STREET, MILLDALE, CONN.

For more details circle NED-788 F1 on enclosed inquiry slip

INFLATED PLASTIC BUILDING
heated by sun or small heater



Only 5 psi of air pressure supplied by a low operating cost electric pump is needed to inflate the Air Bubble Dome to form a 20-ft diameter, 13-ft high plastic structure. An inside temperature of 35 to 50° F higher than the outside temperature is maintained by solar heat. A small electric or oil heater keeps the interior warm on cloudy days. Made of 6-mil vinyl, the inflated building withstands winds of hurricane force because it is flexible under impact. Snow and sleet slide off its curving sides. Air conditioning, dehumidifying equipment, and blowers for ventilation can be used. Portable unit weighs only 73 lb, including air lock for entry, pump, and light fixture. Price is $295. Other sizes can be built to specifications. • **Crystal-X Corp.**, Box 232, Wayne, Pa.

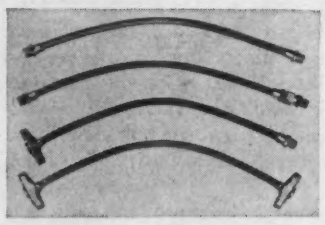
For more details circle NED-789 F1 on enclosed inquiry slip

FAST ELECTRONIC RELAY
vacuum tubes amplify signal

Switching up to 15 amp with a control signal of 1.8 microam or less is possible with the No. 99790 sensitive and fast-acting electronic relay. It will handle this load at 115 v, 60 cycles ac (noninductive) on solenoids, heaters, regulators, instruments, contact meters, and other equipment when triggered by anything from a short circuit to 10 megohms resistance. Current is amplified by a vacuum tube circuit which energizes the control relay. Single-pole double-throw contacts control two normally-closed and two normally-open three-terminal grounded female outlets. A signal light indicates when the switch is energized. • **Central Scientific Co.**, 1700 Irving Park Rd., Chicago 13, Ill.

For more details circle NED-790 F1 on enclosed inquiry slip

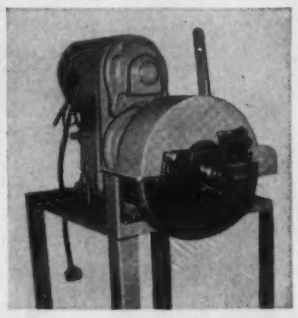
FLEXIBLE STEAM HOSE
nonaging and corrosionproof



Rated up to 250 psi in steam line service, Fluoroflex-T (Teflon) fatigue resistant flexible hose is also rated up to 500 psi and 500° F in general high temperature liquid service. Nonaging, corrosion-proof hose has one-piece, leakproof, brass male or JIC swaged fittings. It is covered with either bronze or stainless steel braid. Sizes range from ⅛-in. male end fitting to 1-in. male pipe thread. • **Resistoflex Corp.**, Roseland, N. J.

For more details circle NED-791 F1 on enclosed inquiry slip

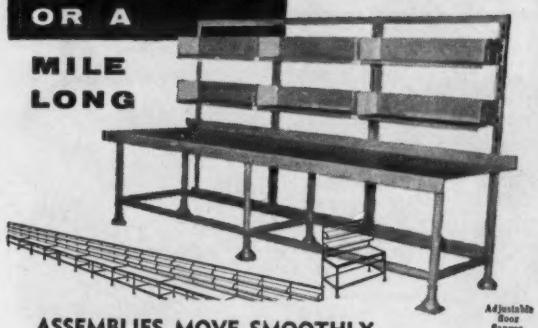
CLOSURE CAP MACHINE
makes up to ten threaded sizes



Screw-on, lug, and pilferproof caps; tube or container necks; boxes; and other round items of shallow height are threaded by the Aeco thread rolling machine. Interchangeable production of up to ten sizes of caps of the same or different types is possible. Output with gravity feed ranges from up to 800 per minute on diameters below 1 in. to 350 per minute on 5-in. diameter items. Use of air jets increases the output. A variable speed motor provides synchronization with a press or lining machine. Besides interrupted single turn threads, multiple thread lugs can be produced. Operations include threading, knurling, curling, beading, grooving, and scoring. • **Anchor Engineering Co.**, 29-09 Bridge Plaza N, Long Island City 1, N. Y.

For more details circle NED-792 F1 on enclosed inquiry slip

THREE FEET OR A MILE LONG
The Ver-T-Bench



ASSEMBLIES MOVE SMOOTHLY WITH VER-T-BENCH UNITS
A truly DeLuxe assembly unit.

Many Advantages of Ver-T-Bench Units
More working area and assembly space
More storage space for finished work
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Write today for Descriptive Literature

THE Vince BASNIK COMPANY
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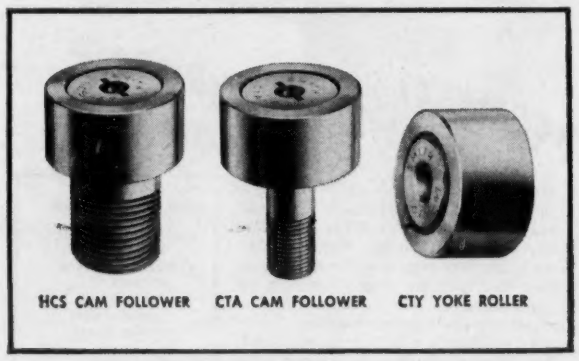
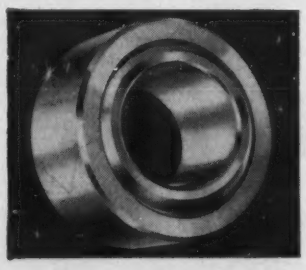
For more details circle NED-793 F1 on enclosed inquiry slip

SMITH cam followers and yoke rollers
engineered to precise standards



Each component of every Smith Cam Follower and Yoke Roller is carefully engineered, machined and finished to the most exacting standards and dimensions. As a result, Smith Cam Followers and Yoke Rollers perform with uniform reliability.

Standard Smith "CTA" (interchangeable) or "HCS" (High Capacity Stud) Cam Followers and "CTY" Yoke Rollers will give you outstanding performance with long, trouble-free life.



Smith/Align Bearings are new self-aligning bearings that are specifically designed for applications which are extremely critical — where dependable performance is vital and failure too costly to tolerate. Smith/Align Bearings will function smoothly, without bind, yet with as little as .0002" clearance between ring and ball.

Better distributors throughout the country stock and sell Smith Cam Followers and Yoke Rollers.

Write for the handy, quick reference data sheets on Smith Cam Followers and Yoke Rollers and for full information on Smith/Align Bearings.

Smith Bearing Division
Accurate Bushing Company
443 North Avenue, Garwood, New Jersey

Manufacturers of: Needle Bearings, Cam Followers, Yoke Rollers, Jet Engine After Burner Rollers and Bearing Assemblies, Airframe Standard and Special Bearings, High Temperature and Severe Wear Precision Parts.

For more details circle NED-794 F1 on enclosed inquiry slip

METARAYS DON'T BUST!

Maybe there's a better word . . . but none says it better. If you're using glass infrared lamps, and have a high breakage rate, here's the answer. Chromalox Metarays have unbreakable, metal-sheathed elements. Maintenance is all but eliminated. Dust, dirt, and paint dropped from parts in process are burned off by the element. Rated 120 volts, 375 to 1200 watts, Metarays create no glare . . . can be operated by automatic or manual controls.

Next time you break a glass infrared lamp, replace it with a Metaray . . . it won't bust. Write today for literature and prices.

CHROMALOX ELECTRIC HEAT
Edwin L. Wiegand Company
7509 Thomas Boulevard • Pittsburgh 8, Pa.

For more details circle NED-795 F1 on enclosed inquiry slip

AUDIO-VISUAL GUIDANCE SYSTEM instructs worker in lengthy or intricate assembly work

Worker doing intricate or lengthy assembly operations is guided by the Teleguide audio-visual guidance system which consists of a 35-mm automatic projector,

rear-view screen, and cartridge tape recorder with ear phones. System provides for up to 60 min of instructions and allows assembler to work at his or her own best speed.

Assembly steps are reproduced on colored slides, and audio instructions are reproduced on tape. Worker is guided through the complete operation step-by-step and can control the instructions through an auxiliary foot switch. Ear phones do not interfere with normal conversation and can receive intraplant music when instructions are not being given. Unit measures 17½ x 12 x 8½ in. and weighs 24 lb. ● **LaBelle Industries, Inc.**, 550 S. Worthington St., Oconomowoc, Wis.

For more details circle NED-798 F1 on enclosed inquiry slip

Your new 1961 DATA on . . .

Kinnear Rolling Doors

also Rolling Grilles, Counter Shutters and Fire Doors

Kinnear Rolling Doors provide an unbeatable combination of lower door costs, extra protection and higher efficiency. The Kinnear-*originated* upward-acting curtain of interlocking slats coils out of the way above the opening. All space *around* doorways is fully usable at all times. The closed doors give you rugged all-metal protection against wind, weather, fire, and vandals. Many Kinnear Rolling Doors have given 50 years *or more* of continuous, daily service. They're also REGISTERED — all parts can *always* be duplicated from details kept in fireproof vaults. Write for this new 1961 Kinnear catalog!

The KINNEAR Manufacturing Co. ● Factories: 3017 Fields Ave., Columbus 16, Ohio; 1742 Yosemite Ave., San Francisco 24, Calif.

For more details circle NED-801 F1 on enclosed inquiry slip

Go on easily Never let go!

Electroline

WIRE ROPE FITTINGS

No wonder veteran riggers are greatest boosters for Electroline fittings—

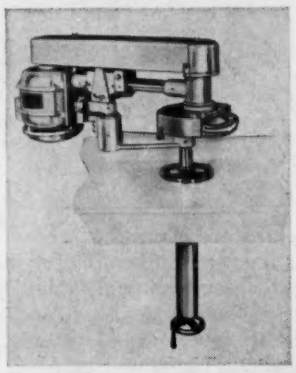
- **easy to install—any man can attach them quickly—ordinary tools**
- **hang on "for keeps"—damps vibration—rope lasts years longer**
- **use again and again**
- **type and size for every need**

Easy step toward cutting those re-roping costs—send for handy-sized illustrated Electroline Catalog. A letter gets prompt action.

Electroline PRODUCTS
THE SUPERIOR SWITCHBOARD & DEVICES COMPANY
Box 590, Canton 1, Ohio • In Canada: Box 158, Brampton, Ont.

For more details circle NED-796 F1 on enclosed inquiry slip

BENCH MOUNTED FINISHERS adjust to any height or angle



Simple flange type mounting with height adjustment wheel makes it easy to move Flexi-Mount bench mounted belt and wheel type finishing units from one job to another. Each is a self-contained machine, powered by an integral 1-hp, 3450-rpm, 220/440-v electric motor, for installation on existing machines, conveyor tables, or production lines. The Flexi-Mount wheel unit (shown) is adjustable to any working angle and will accommodate buffing wire, Tampico, nylon pile, flat, and other types of wheels with diameters up to 10 in. Even contact with the work surface of each piece is maintained as it passes through the brushing zone. Flexi-Mount belt unit affords horizontal, vertical, and angular settings for 2 x 60-in. abrasive cutting, buffing, or polishing belts operating at 3400 sfpm. A belt back-up pad is provided. ● **J. M. Nash Co.**, 132 Jackson St., Oshkosh, Wis.

For more details circle NED-799 F1 on enclosed inquiry slip

You Get **WATER** *that is*

- **CRYSTAL CLEAR**
- **NON-CORROSIVE**
- **NON-CLOGGING**
- **NON-PRECIPITATING**

with **S-K WATER CONDITIONING**

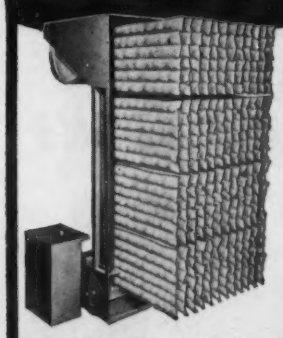
Stiles-Karlsonite Water Conditioning halts corrosion . . . scale . . . on all your water-using equipment. ● Preventive maintenance . . . NOW . . . with Stiles-Karlsonite Water Conditioning products prolongs equipment life . . . improves operating efficiency . . . keeps water systems trouble-free.

Today . . . write for new 24-page brochure . . . full of valuable information.

STILES-KARLSONITE CORPORATION
DEPT. SKC, WAUKEGAN, ILLINOIS

For more details circle NED-802 F1 on enclosed inquiry slip

AAF AIR FILTERS . . .



High-efficiency DRI-*Pak* SERIES 2000 with Roll-O-Matic as pre-filter

● This new AAF integral unit combines the *high-efficiency* of the DRI-Pak with the *fully automatic* features of the time-tested Roll-O-Matic.

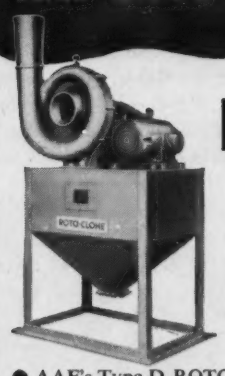
AAF's new DRI-Pak unit provides air-cleaning efficiencies up to 97%, based on the National Bureau of Standards Dust Spot Method on Atmospheric Dust. Simple, once-a-year replacement of the Roll-O-Matic's media roll automatically takes care of all pre-filter maintenance needs. The result is a unique combination of filtering advantages by AAF.

Write for Bulletin No. 228. Address: Mr. Robert Moore, American Air Filter Company, Inc., 391 Central Ave., Louisville, Kentucky.

American Air Filter
BETTER AIR IS OUR BUSINESS

For more details circle NED-797 F1 on enclosed inquiry slip

AAF DUST COLLECTORS . . .



Dry-collecting Type D ROTO-CLONE

● AAF's Type D ROTO-CLONE is designed specifically for collecting moderate loadings of dry, granular particles. The Type D draws in dust-laden air, delivers the collected material to the storage hopper, and exhausts the clean air—*all in a single operation.* And there's only one moving part in this compact, self-contained unit: the impeller. Efficiency of the Type D ROTO-CLONE remains constant regardless of exhaust volumes or operating speeds.

For complete information, call your local AAF representative; or write for Bulletin No. 272. Address: Mr. Robert Moore, American Air Filter Company, Inc., 391 Central Ave., Louisville, Kentucky.

American Air Filter
BETTER AIR IS OUR BUSINESS

For more details circle NED-800 F1 on enclosed inquiry slip

AAF AIR CONDITIONING UNITS

BETTER AIR UNIT CONSTRUCTION
14 Basic Sizes, 24 Different Arrangements (500-36,000 cfm.)

STANDARD UNIT CONSTRUCTION
12 Basic Sizes, 24 Different Arrangements (500-36,000 cfm.)

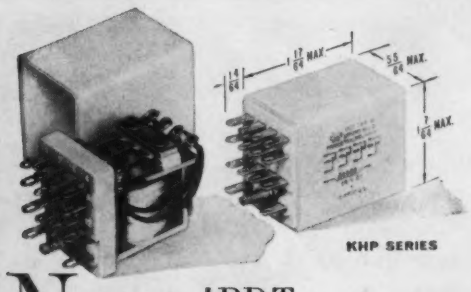
Why 2 different lines from one manufacturer?

● There is a dependable Kennard/Nelson Central station air conditioning unit for any system. One, the Better Air (Type A) line, for projects where quality comes first. Another, the Standard (Type D) line, when equipment "equal to or exceeding" industry standards is required.

Ask your Kennard/Nelson representative to demonstrate the advantages of both Better Air and Standard unit frame construction in your office. Call him or write for literature on these units: Kennard/Nelson Products, American Air Filter Company, Inc., 391 Central Avenue, Louisville, Kentucky.

American Air Filter
BETTER AIR IS OUR BUSINESS

For more details circle NED-803 F1 on enclosed inquiry slip



New 4PDT 3 AMP P&B relay

MECHANICAL LIFE EXCEEDS 100 MILLION CYCLES

This small (about a 1" cube) 4-pole relay not only maintains operating tolerances over an exceptionally long life—but is easy to install, using the conveniently spaced solder lugs or a socket.

Its 4PDT contacts will switch loads from dry circuit up to 3 amperes. Order samples today.

KHP SERIES SPECIFICATIONS

CONTACTS:
Arrangement: 4 Form C, 2 Form Z.
Material: 7/32" dia. Silver standard.
Rating: 3 amps @ 30 volts DC or 115 volts AC resistive for 100,000 operations.
INSULATION RESISTANCE: 1500 megohms min.
COILS:
Resistance: 11,000 ohms max.
Temperature: Operating Ambient: −45°C. to +70°C.
Power: 0.5 watts min. operate @ 25°C. 0.9 watts nom. @ 25°C. 2.0 watts max. @ 25°C.
MECH. LIFE: In excess of 100 million cycles.
DUST COVER: Standard.
TERMINALS: Solder lug and taper tab.
SOCKET: Solder lug or printed circuit terminals. Available as accessory.

KHP SERIES RELAY NOW AVAILABLE AT YOUR LOCAL ELECTRONIC PARTS DISTRIBUTOR

POTTER & BRUMFIELD
DIVISION OF AMERICAN MACHINE & FOUNDRY COMPANY • PRINCETON, INDIANA
IN CANADA: POTTER & BRUMFIELD, DIVISION OF AMF CANADA LIMITED, GUELPH, ONT.

▲ For more details circle NED-804 F1 on enclosed inquiry slip ▲

Just off the press

for Designers and Engineers—

Free Illustrated Bulletin K-275
Gives Complete, Detailed Engineering Information On New Space-Saving Motorized Speed Variators

For either OEM applications or to modernize existing machines and equipment, precision engineered Speed Variators (with integral "pancake" type AC radial air gap motors) may be specified in place of *larger variable speed drive units* and their connecting electrical drives. If there's room for a motor — an equally rated Variator should fit in the space.

CLEVELAND WORM & GEAR DIVISION
Eaton Manufacturing Company
3278 East 80th Street • Cleveland 4, Ohio

▲ For more details circle NED-805 F1 on enclosed inquiry slip ▲

Production UP
Inspection Errors DOWN

At PRATT & WHITNEY, a MAGNI-FOCUSER insures accurate inspection of a precision part.

—when inspectors "SEE BETTER"®

with MAGNI-FOCUSER 3-D BINOCULAR MAGNIFIERS

It takes more than just the human eye to accurately detect defects in a mass-produced product. That's why hundreds of plants manufacturing products ranging from jet planes to microscopic electronic parts insist that their inspectors wear **MAGNI-FOCUSERS.**

MAGNI-FOCUSER, the 3-D binocular magnifier with matched precision ground optical glass lenses, helps eliminate costly errors by providing needle-sharp, distortion-free magnification in the third dimension.

MAGNI-FOCUSER reduces eye-strain, leaves both hands free to work. May be worn with or without regular eyeglasses. Normal vision resumed by raising head slightly. Weighs only 3 ounces.

Get greater accuracy in your operation—send for **MAGNI-FOCUSER** on a 10-day trial without obligation! Immediate delivery. Three models—1¾ magnification at 14", 2¼ at 10", 2¾ at 8". Only $10.50. Illustrated literature on request.

EDROY PRODUCTS CO.
Dept. B, 480 Lexington Ave.
New York 17, N. Y.

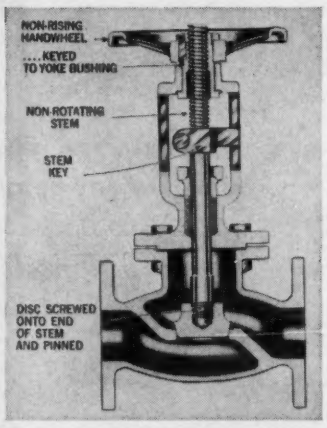
▲ For more details circle NED-806 F1 on enclosed inquiry slip ▲

POWER SWEEPER
cleans 120,000 sq ft per hour

Dirt, sand, metal scrap, paper, wood, and bottles are swept up by the Model 4400 industrial power sweeper. Twelve individual sock-type dust filtering bags with 32 sq ft of filter area are cleaned by a shaker hand-operated at the driver's seat. Machine sweeps a 68-in. path and cleans a minimum of 120,000 sq ft per hour with its 44-in. floating main brush and two 12-in. side brushes which automatically follow floor contours. The 5 x 8 x 6½-ft sweeper is powered by a two-cylinder, 18-hp gasoline engine through a two-speed transmission. Forward-reverse operation is controlled by foot pedal. Sweeper rides on 13-in. diameter solid cushion rubber tires. • **Wilshire Power Sweeper Co.,** 518 S. St. Clair St., Toledo 3, Ohio.

▲ For more details circle NED-807 F1 on enclosed inquiry slip ▲

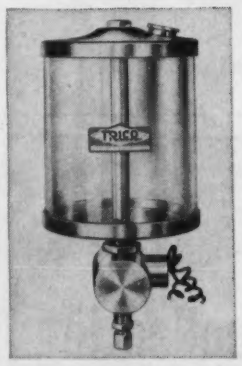
GLOBE VALVES
redesigned to prevent chatter



Incorporation of a nonrotating stem, nonrising handwheel, and a fixed disc in this line of redesigned globe valves eliminates stem vibration and disc chatter. Design also prevents galling between the stem foot and the disc and excess leakage caused by the stem cutting a spiral through the packing. Throttling control is improved by use of a calibrated yoke. The 150-lb valves are being produced in 2-in. and larger sizes with renewable discs of Teflon or other suitable materials for vacuum, high volatile fluids, or severe corrosive environment service. Available corrosion resistant alloys are several stainless steels, Aloyco 20, Monel, nickel, and Hastelloy B and C. • **Alloy Steel Products Co.,** 1300 W. Elizabeth Ave., Linden, N. J.

▲ For more details circle NED-808 F1 on enclosed inquiry slip ▲

LIQUID DISPENSERS
manual and electric gravity units



Full flow of oil or other compatible liquids results when the valve of these nonadjustable liquid dispensers is opened. Flow is by gravity through ¼-in. OD nylon or metal tubing connected to single or multiple feed valves for adjusting rate of feed. Manual Type D dispenser is turned on and off by the lever on top of the reservoir. Electric Type DE is solenoid operated and when energized, feed starts instantly. Its solenoid can be connected across the line of a motor, or operated by a switch from a lighting circuit. Constant duty solenoids are available in all voltages and cycles, and for direct current. Pyrex glass or Lucite plastic reservoirs have capacities of 10 oz, 1 pt, 1 and 2½ qt, or 1 gal. Over-all heights range from 7¾ to 17 in. (*Editor's Note: This item ran in the April,* 1961 *issue with an incorrect picture.*)

• **Trico Fuse Mfg. Co.,** 2948 N. Fifth St., Milwaukee 12, Wis.

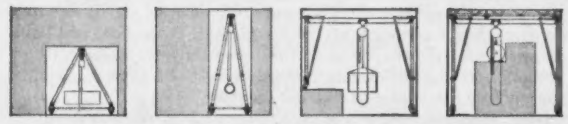
▲ For more details circle NED-809 F1 on enclosed inquiry slip ▲

Clamp Assemblies & Fixture Components

Accurate Bushing Co.—Information and drawings on over 1000 clamp assembly and fixture components items available from stock are content of 12-page Catalog JF-61. Included are standard, hand screw, single and roller cam, swing strap, double end, hook, and other clamp assemblies, plus balls, bar knobs, bolts, buttons, hand wheels and knobs, plungers, and screws. A price list is included.

▲ For more details circle NED-810 F1 on enclosed inquiry slip ▲

MAGIC-POLE UNIVERSAL GANTRY



Sets low for moving under piping, fire doors & into elevators, etc.

Caster spread adjusts to under 4 ft. for rolling in tight spaces.

Legs adjust up to 6 feet to rest on platforms, truck beds or in pits.

Height adjusts to take maximum advantage of limited head room.

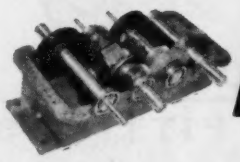
Write for FREE literature

B. E. Wallace Products Corp. EXTON 19 PA., U.S.A.

▲ For more details circle NED-811 F1 on enclosed inquiry slip ▲

DIFFERENTIAL GEAR BOXES

SPECON



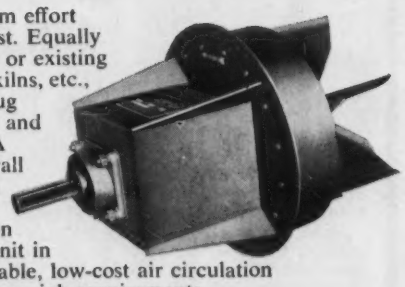
Differential assemblies precision crafted by Specon for drives and transmissions are available as gear boxes alone. These task-proven assemblies offer the built-in advantages of Specon units: extreme accuracy, low maintenance, rugged, space saving construction. Seven basic models are rated from 1 hp. to 75 hp. Specials and units for higher power can be supplied. The Specon units are particularly well suited for such applications as phase and register control, speed control, torque dividing, overriding, cycling and balancing operations.

For full information on Specon gear boxes, drives and transmissions, write to:

STRATOS®
A DIVISION OF FAIRCHILD ENGINE AND AIRPLANE CORPORATION
Industrial Products Branch, Route 109, West Babylon, L. I., New York

▲ For more details circle NED-812 F1 on enclosed inquiry slip ▲

dependable, continuous air-movement in temperatures up to 2000° F. WITHOUT DUCTWORK!



. . . with minimum effort and minimum cost. Equally adaptable to new or existing furnaces, ovens, kilns, etc., Thermal-Aire Plug Units are quickly and easily installed. A hole in furnace wall to receive the fan wheel is the only requirement. Then simply bolt the unit in place for dependable, low-cost air circulation . . . matched to *your* job requirements.

Write today for Bulletin 960

Thermal·aire plug units

Garden City Fan & Blower Co., 835 N. Eighth St., Niles, Mich.

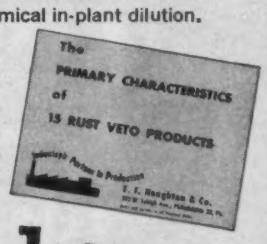
▲ For more details circle NED-813 F1 on enclosed inquiry slip ▲

RUST PREVENTIVES

● **What type do you need?**

Fifteen of Houghton's wide variety of Rust Preventive Compounds will handle almost any industrial requirement. All are sold under the world-famous COSMOLINE and RUST VETO labels: solvent containing—dry film, non-solvents, finger-print neutralizers, water displacing and concentrates for economical in-plant dilution.

Write for folder 2-361A.
E. F. Houghton & Co.
303 W. Lehigh Ave.
Philadelphia 33, Pa.



Houghton
INDUSTRY'S PARTNER IN PRODUCTION

For more details circle NED-814 F1 on enclosed inquiry slip

MACHINE TOOL CUTTING FLUIDS

● **Check these 3 types.**

Chemi-cool HOCUT 237 represents a new concept in non-petroleum coolants. It combines the important features of many different coolants into one economical package: cools, lubricates, prevents rust, stays mint-fresh for life. Others: HOCUT 3210 for heavy duty; HOUGHTO-GRIND 50 for grinding.

Write for Data Sheets.
E. F. Houghton & Co.
303 W. Lehigh Ave.
Philadelphia 33, Pa.

Houghton
INDUSTRY'S PARTNER IN PRODUCTION

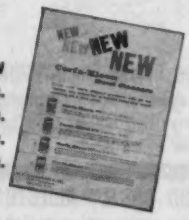
For more details circle NED-815 F1 on enclosed inquiry slip

METAL CLEANERS

● **Four new ones offer big advantages.**

New Houghton CERFA-KLEENS give you EXTRA benefits such as built-in rust prevention, water softening, non-foaming and free rinsing characteristics. One of these four products will handle almost any metal cleaning job—soak tank or power washer, hot or cold. Simplifies purchasing as well.

Write for new
CERFA-KLEEN Brochure.
E. F. Houghton & Co.
303 W. Lehigh Ave.
Philadelphia 33, Pa.



Houghton
INDUSTRY'S PARTNER IN PRODUCTION

For more details circle NED-816 F1 on enclosed inquiry slip

BALL BEARING NUT for small screw assemblies

Small diameter nut for ball bearing screw assemblies is designed for installations where space is critical. On the assembly shown at lower right in picture, the outside diameter of the nut has been reduced 20 per cent—from 0.005 to 0.400 in. Assembly has a ball circle diameter of 3.16 in. and is fitted with 1-mm balls. Need for conventional return tube is eliminated. ● **General Motors Corp.**, Saginaw Steering Gear Div., 3900 Holland Rd., Saginaw, Mich.

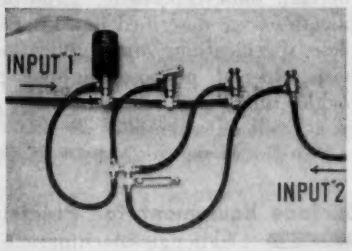
For more details circle NED-817 F1 on enclosed inquiry slip

"CHEATPROOF" CONTROL RELAY for safe operation of machines

Control Monitor "cheatproof" control relay provides an adjustable time delay circuit for two-hand control of mechanical and friction clutch systems. It can also be used as an antirepeat relay with a timed holding circuit, or as a timed holding circuit for another antirepeat relay. After a control switch has been tied down, the Control Monitor cannot be bypassed, thus preventing a single stroke of the machine. Control switches must be operated within the set time interval (which is adjustable) or the clutch will not be actuated. The 5 x 4 x 3-in. unit has a maximum current carrying capacity of 15 amp at 115 v ac. Operation is on 115 v, 60 cycles ac. Single unit price is $43.15. ● **Minneapolis-Honeywell Regulator Co.**, Micro Switch Div., 205 S. Chicago Ave., Freeport, Ill.

For more details circle NED-818 F1 on enclosed inquiry slip

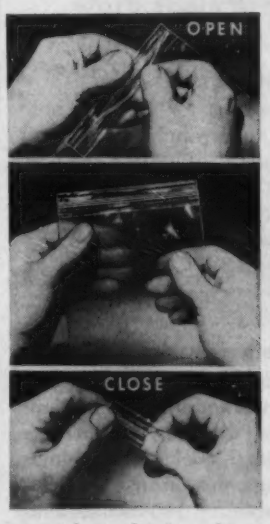
MINIATURE SHUTTLE VALVE 3/4-in. unit for fluid power uses



This ¾-in. miniature shuttle or double-check valve has a working pressure range of 0.5 to 250 psi with air flow rate of 5 cfm at 50 psi. Valve is used in multiple fluid power circuitry of cylinders, controls, and safety devices. Alternate flow from two inputs to a single output is accomplished by a sliding piston with Buna-N seals. Machined from brass, valve has input ports tapped for 10-32 fittings and 10-32 male output ports. Picture shows how any number of valves can be joined together to actuate one cylinder with valves controlled by solenoids, cam followers, or manual pushbuttons from one pressure source (input 1), or different pressure sources (input 2). ● **Clippard Instrument Laboratory, Inc.**, 7390 Colerain Rd., Cincinnati 39, Ohio.

For more details circle NED-819 F1 on enclosed inquiry slip

POLYETHYLENE BAGS have molded zipper-type closure



Both zipper-type closure and bag portions of Zip-Lip polyethylene bags are made of this clear, tear and chemical resistant plastic. Sealing element consists of male and female molded poly strips that engage each other by finger tip pressure across the width of the opening. Bags can be fabricated to any closure width to 13 in. and in lengths to suit any requirement. They are used to carry job and order tickets, or protect various commodities or delicate parts in transit. Bags can be printed for contents identification or with multiple colors. ● **Kennedy Car Liner & Bag Co.**, Dept. Z, Shelbyville, Ind.

For more details circle NED-820 F1 on enclosed inquiry slip

HI-TEMP LUBRICANT

● **Effective over 1000°F.**

Hi-Temp 2409 lubricant is a completely new type that contains no silicones, diesters, soaps, or heavy metals. At 200°F., it becomes fluid and carries lubricant to all surfaces. At 500°F., the synthetic carrier evaporates and leaves a soft film of dry lubricant that easily withstands 1000°F.

Write for the new book on
Hi-Temp Lubes.
E. F. Houghton & Co.
303 W. Lehigh Ave.
Philadelphia 33, Pa.

Houghton
INDUSTRY'S PARTNER IN PRODUCTION

For more details circle NED-821 F1 on enclosed inquiry slip

RUST VETO SPRAY

● **The modern way to prevent rust.**

Handy, push-button spray protects tools, jigs, dies, machines the easy way. Provides positive rust protection without messy dipping or brushing. Fast, easy and economical to use on highly finished parts stored or wrapped for shipment. Hundreds of uses around any industrial plant. Sold only in case lots (12 per case).

For details, write
E. F. Houghton & Co.
303 W. Lehigh Ave.
Philadelphia 33, Pa.

Houghton
INDUSTRY'S PARTNER IN PRODUCTION

For more details circle NED-822 F1 on enclosed inquiry slip

HEAT TREATING SALTS, QUENCHES

● **In a full range of types.**

Fortified oils, martempering oils and salts developed specifically for quenching—and quenching only—in a full range to give you perfect results every time: Perliton Liquid Carburizers, Self-Rectifying Liquid Heat, Neutral Salts, Additives and Concentrates . . . with Houghton On-The-Job Help to solve every heat treating problem.

Write for Brochure 2-363C.
E. F. Houghton & Co.
303 W. Lehigh Ave.
Philadelphia 33, Pa.

Houghton
INDUSTRY'S PARTNER IN PRODUCTION

For more details circle NED-823 F1 on enclosed inquiry slip

NEW—PNEUMATIC TENSIONERS FOR AVISTRAP® CORD STRAPPING

Pneumatic tools bring new speed and convenience to palletizing, reinforcing, banding, unitizing and baling with AVISTRAP cord strapping. Other AVISTRAP advantages: safety, light weight, ability to absorb shocks that snap comparable-width metal strapping. Write for data on new pneumatic tools, AVISTRAP literature, or to arrange in-plant demonstration.

AVISTRAP CORD STRAPPING*

*PATENTS PENDING

INDUSTRIAL PACKAGING DEPARTMENT

American Viscose Corporation, 1617 Pennsylvania Boulevard, Philadelphia 3, Pa.

▲ For more details circle NED-824 F1 on enclosed inquiry slip ▲

25 years of progress in tiny parts

☐ Reduce costs
☐ Simplify assembly
☐ Improve appearance with

GRC DIE CAST ZINC ALLOY & MOLDED NYLON FASTENERS

WASHER BASE CAP NUTS

exclusive with GRC

Open and closed end with either standard or full diameter integral washer bases.

15 hex sizes: ¼"-15/16", #4-36 to ⅝"-18 threads. Wide range of regular Cap Nuts . . . stock styles, types, sizes and threads.

- Eliminates separate washers
- Speed assembly
- Reduce handling and inventory
- Avoid wrench marks
- Hold better

NEW, EXCLUSIVE GRC DESIGNS save you money at every step. Rustproof, corrosion resistant, 2 types: stand. diam. for regular use—full diam. where separate washer would be used. Produced in one high speed automatic operation, GRC's exclusive methods assure uniformly accurate, smooth surfaces, no tool marks or cut-off burrs . . . low cost . . . made possible by GRC's special automatic die casting and molding machines.

Write, wire, phone RIGHT NOW for samples, prices, your copy of GRC's NEW DETAILED FASTENER CATALOG

GRIES

GRIES REPRODUCER CORP.

World's Foremost Producer of Small Die Castings

143 Beechwood Ave., New Rochelle, N. Y. • NEw Rochelle 3-8600

▲ For more details circle NED-825 F1 on enclosed inquiry slip ▲

free

new filler metals chart simplifies selection of welding rods and electrodes

Tells at a glance the type rod or electrode to use for welding stainless, low alloy, non-ferrous and light metals. Covers manual, automatic and semi-automatic welding. Includes data on coated electrodes, coiled and spooled bare electrodes, cut bare rods, spooled bare wire, flux cored electrodes and bonded fluxes. Reverse side packed with AWS standard welding symbols and descriptions in handy form. SEND TODAY! ARCOS CORPORATION, 1500 South 50th Street, Philadelphia 43, Pa.

ARCOS | *Filler Metal Specialists*

▲ For more details circle NED-826 F1 on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

These catalogs have been selected on the basis of the completeness of their data and their value to the needs of our reader-audience. They are sent to you by the manufacturer or distributor when you circle the proper item number on a self-mailing inquiry slip in the issue. When a price is mentioned or a letter-head request is indicated, you should write to the company.

Lighting for Industry

FREE Better Light Better Sight Bureau—Better seeing in industry is covered in 16-page hankbook B-570. Written for plant executives, it explains in nontechnical language what's behind the new higher lighting levels recommended for industry. Discussed are quality factors in lighting, benefits which can result, and ten case histories showing how improved lighting paid off.

▲ For more details circle NED-827 F1 on enclosed inquiry slip ▲

Nesting Pails

FREE Bennett Industries, Inc.—"Nesting Pails" is title of specification sheet and 6-page folder on the new 5-gallon taper-sided steel nesting pail which occupies one-third as much room as straight-sided pails when stored or shipped empty.

▲ For more details circle NED-828 F1 on enclosed inquiry slip ▲

Conveyors for Every Need

FREE Conveyor Systems, Inc.—Trolley, roller, slat, chain, belt, and special conveyors for any bulk material or packaging handling operation are subject of 56-page Catalog 70. Typical handling problems are discussed, and equipment which solved the problems are covered in case histories.

▲ For more details circle NED-829 F1 on enclosed inquiry slip ▲

Precision Switches

FREE Minneapolis-Honeywell Regulator Co., Micro Switch Div.—Precision switches for industrial, commercial, data processing, airborne, and electronic applications are described in 20-page Catalog 104. Complete specifications and application data are given on basic, special purpose, lighted pushbutton, manual, toggle, limit, enclosed, proximity, and mercury switches as well as assemblies.

▲ For more details circle NED-830 F1 on enclosed inquiry slip ▲

Surface Equipment for Precision Work

FREE Challenge Machinery Co.—12-page Catalog 840 covers over 400 sizes and types of precision surface equipment for layout, tooling, and inspection work. Described are angle plates, bench blocks and plates, box parallels, straight edges, layout plates, V-blocks, welding tables, work benches, and many other related products.

▲ For more details circle NED-831 F1 on enclosed inquiry slip ▲

Machine & Process Control

FREE Reliance Electric & Engineering Co.—How speeds of machines and processes can be automatically controlled and regulated by simple pneumatic instrumentation is explained in 16-page AIRtrol Bulletin G-2500. Systems can be applied to control liquid level, line pressure, process temperature, constant flow, steam pressure, and motor loading.

▲ For more details circle NED-832 F1 on enclosed inquiry slip ▲

Pressure Clamps & Hose Fittings

FREE Band-It Co.—Applications for Band-It hose clamps, Scru-Lokt buckles, and hose nipples are among the contents of 24-page illustrated Catalog B-5. These products, and swivel adapter unions, Brack-Its hose menders, big hose quick coupler, hose nipple pushers, and other products are described, and their specifications are given.

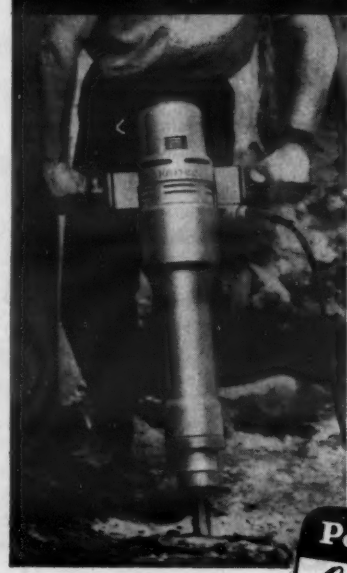
▲ For more details circle NED-833 F1 on enclosed inquiry slip ▲

Ultra-Low Temperature Cabinets

FREE Revco, Inc., Industrial Products Div.—Performance and specifications on standard and optional components used in line of ultra-low temprature cabinets are furnished in 4-page booklet. Cabinets are designed for research, storage, seasoning, and testing applications and are capable of producing temperatures to −140° F. Cabinets do not require liquid coolants.

▲ For more details circle NED-834 F1 on enclosed inquiry slip ▲

You get a real break with a KANGO!



Type H KANGO is a truly Portable breaker—operates on normal house current! Remarkably quiet and smooth; you can control it with one hand; won't throw up dust clouds; safe to use even out in the rain. But best of all, KANGO has typical Porter-Cable built-in trouble-free quality and durability. Accessories include bullpoint, chisel, cutters, spade, and backfill rammer. See the works at your distributor or write for folder.

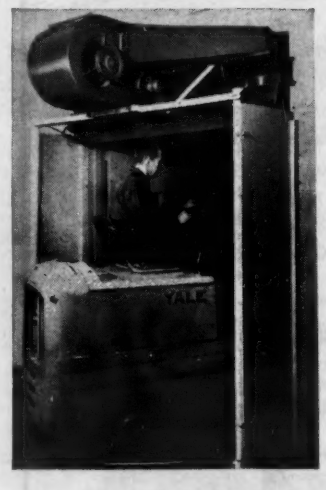
Porter-Cable *Quality Power Products*

PORTER-CABLE MACHINE CO.
1126 Marcellus St., Syracuse, N.Y.

▲ For more details circle NED-835 F1 on enclosed inquiry slip ▲

AIR ISOLATOR*

. . . opens doorways to unlimited traffic while screening out heat, cold, humidity, dust, odors, insects.



Forms a shield between areas of different temperature or humidity.

Provides high velocity curtain of vertical air across open doorways.

Permits unlimited traffic. Repels dust, cold, heat, odors or insects.

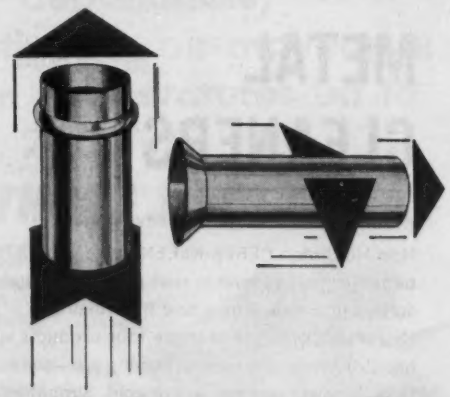
Broad application: Manufacturing, general industry, warehousing, food processing or laboratories.

*Registered trademark and product of Lehigh, Inc.

For complete information write today to Jamison Cold Storage Door Co., Hagerstown, Md.

JAMISON COLD STORAGE DOORS

▲ For more details circle NED-836 F1 on enclosed inquiry slip ▲



TUBE PARTS now fly HIGHER AND FASTER!

The stress of higher temperatures and faster speeds requires that tubular parts be made from tougher, heavier walled tubes.

AVOID COSTLY REJECTS! Fabricate these parts on the one machine designed for the job, new

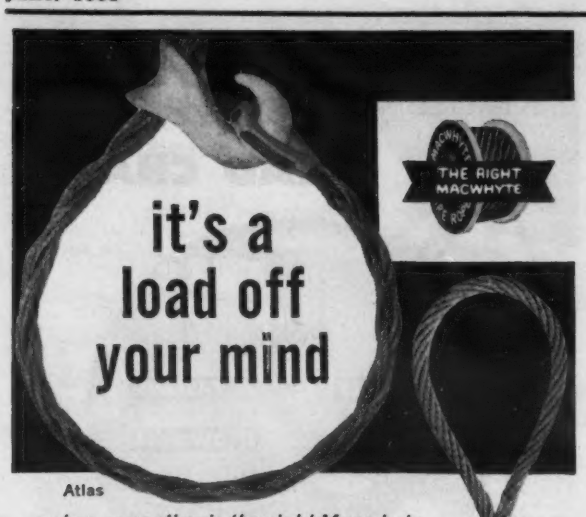
TUBEMASTER 3CP-HD.

Write for literature

LEONARD PRECISION

LEONARD PRECISION PRODUCTS CO.
9200 BOLSA AVE. SANTA ANA, CALIFORNIA

▲ For more details circle NED-837 F1 on enclosed inquiry slip ▲



Atlas

Safe-Guard

—when your sling is the right Macwhyte

There are Macwhyte slings for all your load-handling — for a safe, sure grip. Atlas round-braided, Drew flat-braided, and Safe-Guard cable-laid slings are flexible, lightweight, kink-resistant. Also slings designed for your special needs. For complete information and capacity tables, ask for Bulletins 5308-R and 5886 Macwhyte Wire Rope Company, 2900 Fourteenth Avenue, Kenosha, Wisconsin.

234

MACWHYTE

▲ For more details circle NED-838 F1 on enclosed inquiry slip ▲

GPE Controls

WEB and STRIP GUIDES

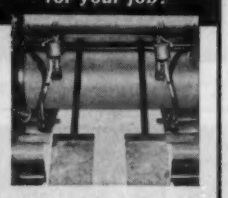
Save TIME...MONEY...MATERIAL!

Send for NEW Catalog EG-84

Photos and diagrams representing thousands of installations; complete details on world's broadest line of web and strip guides.

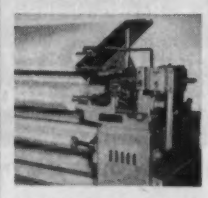
- Laminate without trim!
- Speed up presses while you keep accurate side register!
- Slit without side trim!
- High-speed textile tentering with minimum selvage.
- Track conveyor belts, abrasive belts, etc., up to 5,000 feet per minute.
- Winds 100-ton steel coils evenly to protect edges.
- Web edge position, porosity, opacity, or reflectance sensed by air or photoelectric heads.
- Non-clog air sensing head (patented) never touches web, works perfectly with linty, dusty, or abrasive webs.
- Hydraulic actuation for unlimited power and speed, high frequency response.
- Engineered by specialists in industrial automatic controls.

43 MODELS
...one just right for your job!



Medium-duty model with air sensing, positioning knives on rubber calender.

Photoelectric reflected light head following line on printed carton stock to eliminate slitting.



Light-duty unit with air sensing, applied to textile machinery.

GPE Controls, Inc.
258 E. Ontario St., Chicago 11, Ill.

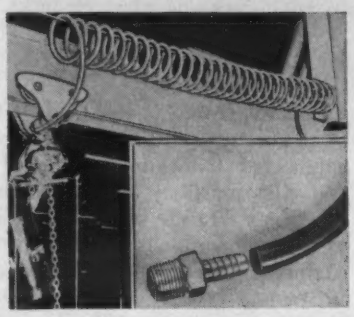
GPE Controls — A GENERAL PRECISION COMPANY — formerly Askania Regulator Company

A subsidiary of General Precision Equipment Corporation

▲ For more details circle NED-839 F1 on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

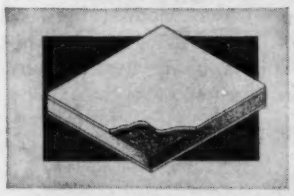
SELF-COILING AIR HOSE
retracts to 1/30th of working length



Heavy-duty Synflex self-storing air hose, which extends like a helically-coiled telephone cord, retracts into a storage space about 1/30th of its maximum working length. Hose is built for above average plant air pressures and where mechanical stresses are extreme, such as on air hoists, clamping devices, and air-blast clean-off devices on slides or moving booms. Made from nylon which is impervious to oils, hose has a minimum working pressure with 4-to-1 safety factor of 250 psi at 75° F. It is available in 3/16, 1/4, 5/16, and 3/8-in. ID sizes in lengths through 100 ft and with barbed shank or swivel barbed shank fittings. • **Samuel Moore & Co.,** Synflex Products Div., Mantua, Ohio.

▲ For more details circle NED-840 F1 on enclosed inquiry slip ▲

FLAMEPROOF ADHESIVE
is sprayed on clean surfaces



Rulabond No. 988 sprayable, non-combustion-supporting adhesive is usable for bonding such materials as treated wood, metal, plastic, ceramic, porcelain, and synthetics. It is easily applied to any clean surface, and it dries rapidly for quick layup. It meets ASTM specifications for nonflammability. • **Rubber Latex Co. of America,** 110 Delawanna Ave., Clifton, N. J.

▲ For more details circle NED-841 F1 on enclosed inquiry slip ▲

ALUMINUM PLATING PROCESS
eases bath make-up, is free-rinsing

Simplified method of plating on aluminum utilizes a dilute zincate bath solution made up of only 1 lb of Alumon D salts per gallon. Compared with the 4 to 5 lb per gal conventional zincate bath, the new solution is easier to make up, is freer rinsing, penetrates more readily into grooves and blind holes, and minimizes carry-over of zincate into subsequent plating baths. Solution dragout is less than one-third, and dissolved salts loss is less than one-twelfth that of conventional baths. Immersion times vary from 15 sec to 2 min at room temperature. Viscosity is very near that of water. Alumon D is available as a powder or liquid concentrate which may be used interchangeably. • **Enthone, Inc.,** 442 Elm St., New Haven 8, Conn.

▲ For more details circle NED-842 F1 on enclosed inquiry slip ▲

FILE RESHARPENING SERVICE
worn tools are processed in bulk

Worn files can be resharpened as many as eight times by an acidless process. Mill curved tooth files frequently may be sharpened up to 12 times. Reconditioned

files are tested, then identified and wrapped for stockroom dispensing. Cost of sharpening regular files ranges from 15 cents for a 3-in. size to 70 cents for an 18-in. size. Mill curved tooth, aluminum special bent lathe, body, and parallel machine files and rifflers are also handled. Sample files can be submitted for free testing of the sharpening service. • **B. C. Parker & Co.,** 503 E. Ten Mile Rd., Royal Oak, Mich.

▲ For more details circle NED-843 F1 on enclosed inquiry slip ▲

TWICE as many Timing Contacts
—SAME PANEL SPACE!

NEW 2-POLE TIMING RELAY mounts in same space as single-pole timer

PLUS these advantages:

- Easily converted from on-delay to off-delay or vice versa
- 1 or 2 single pole double throw instantaneous snap switch interlocks available
- Timing adjustable from 0.2 seconds to 3 minutes
- Available for either AC or DC
- No problem in dusty locations—totally enclosed contacts

Write FOR DETAILS. Square D Company, Dept. SA, 4041 N. Richards St., Milwaukee 12, Wisconsin

SQUARE D COMPANY
wherever electricity is distributed and controlled

▲ For more details circle NED-844 F1 on enclosed inquiry slip ▲

feature for feature...
THIS NEW SQUARE D VOLTAGE TESTER
Tops them ALL!

for further details, write Square D Company, 1601 Mercer Road, Lexington, Kentucky

SQUARE D COMPANY
wherever electricity is distributed and controlled

▲ For more details circle NED-845 F1 on enclosed inquiry slip ▲

This NEW Manual Starter has EVERYTHING!

Write for BULLETIN 2510 B-C
Square D Company, 4041 N. Richards St., Milwaukee 12, Wis.

SQUARE D COMPANY
wherever electricity is distributed and controlled

▲ For more details circle NED-846 F1 on enclosed inquiry slip ▲

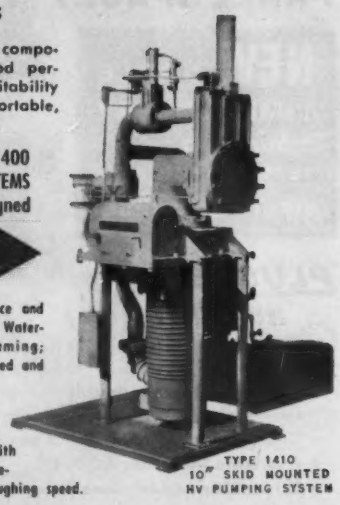
NEW There IS a Difference

in HIGH VACUUM PUMPING SYSTEMS

Complete, Factory-Assembled, Tested Pumping Systems

Using only high vacuum components of demonstrated good performance, reliability and suitability . . . Skid mounted or portable, ready for quick installation.

GENERAL VACUUM SERIES 1400 DIFFUSION PUMPING SYSTEMS Incorporate specially designed TWO-STAGE TRAP with Liquid-Nitrogen and Water-Cooled Baffles



This trap provides high conductance and low liquid-nitrogen loss rate. Water-cooled stage reduces backstreaming; liquid-nitrogen stage increases speed and lowers blank-off.

Series 1400 Pumping Systems give you the perfect Pumping Package in sizes from 2" to 32" with high speed backing pumps, or mechanical boosters for maximum roughing speed.

Manual or Automatic Controls. Maximum Accessibility.

Literature on Request

GENERAL VACUUM CORPORATION

HICKS AVENUE, MEDFORD 55, MASSACHUSETTS

▲ For more details circle NED-847 F1 on enclosed inquiry slip ▲

Milwaukee ANNOUNCES SAWZITT

A new slant in Jig Saws

Fresh new concept in heavy-duty jig sawing...

- Exclusive pivoting head . . . tool remains upright on all cuts
- Cuts flush to or along wall
- Exclusive turn-and-lock shoe with single-screw adjustment
- Powerful ¼ hp Milwaukee-built AC-DC motor
- Super sawdust blower
- Ball and roller bearings on all rotating parts
- Simple, rugged, vibration-free mechanism
- Modern, compact design . . . weighs just 5 lbs, only 5" high
- Fast — 3500 strokes per minute . . . full ¾" stroke
- Excellent blade visibility

Only **$69.50** complete with combination circle and rip guide and starter set of (11) Sawzitt blades.

See your MILWAUKEE Distributor or write for Bulletin SW-37

MILWAUKEE ELECTRIC TOOL CORPORATION

5316 West State Street, Milwaukee, Wisconsin

A1-151

▲ For more details circle NED-848 F1 on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

Story of Glass

FREE Corning Glass Works—Revised 68-page edition of "This Is Glass" reviews the history of glass and details the basic types. It describes the role of glass in science, industry, electronics, lighting, and the home and includes a section on Pyroceram glass-ceramic materials. A 2-page chart lists properties of selected glasses and glass ceramics.

▲ For more details circle NED-849 F1 on enclosed inquiry slip ▲

Plastic Materials

FREE Trans-Plastics Corp.—This firm was formed to market a complete line of pipe, fittings, sheet, and engineered fabrications made of PVC, polyethylene, and ABS plastics. An 8-page introductory section to the firm's 80-page engineering manual tells the story of the company, its policies, history of materials, its engineering and fabrication services, and its products.

▲ For more details circle NED-850 F1 on enclosed inquiry slip ▲

Insulated Cables

FREE Okonite Co.—Latest information on cables insulated with Okonex butyl-base high voltage insulation is provided in 48-page reference Bulletin 1131. Insulation is designed for multipurpose service up to 90° C and is extremely resistant to ozone, heat, and moisture. Data on current carrying capacities, dimensions, and designs available are given.

▲ For more details circle NED-851 F1 on enclosed inquiry slip ▲

Coolant Filter

FREE Pressurized Filtration, Inc. — British-made Braithwaite coolant filtration system introduced in 4-page Bulletin 100 is made in two models, both of which will filter 30 gpm of all particles over 5 microns. Capacities up to 1200 gpm are available by adapting a series of filtration cages and larger capacity abrasive circulators. Units are for water soluble coolants.

▲ For more details circle NED-852 F1 on enclosed inquiry slip ▲

Bucket Elevators & Components

FREE Webster Mfg., Inc.—84-page Catalog be-55 simplifies the selection and application of bucket elevator systems for bulk handling of chemicals, chips, coal, grains, ore, sand, sawdust, slag, and similar materials. Table lists 318 possible bucket elevator types from which the right type for specific situations can be selected.

▲ For more details circle NED-853 F1 on enclosed inquiry slip ▲

Air Compressors

FREE Johnson Service Co., Compressor Div.—Both portable and stationary air compressors powered by electric motor, gasoline engine, or power take-off are described and their specifications given in 32-page catalog. Air seal and piston type compressors, rated from ⅓ to 1 hp and with air deliveries from 2.8 to 125 psi, are detailed.

▲ For more details circle NED-854 F1 on enclosed inquiry slip ▲

Lubricated Plug Valves

FREE Walworth Co.—"How Walworth Puts the Roll in Rolotork" is an illustrated 16-page brochure which explains that Rolotork cast steel lubricated plug valves utilize a ball bearing system to handle high pressure line thrust on the plug. Cutaway views show operation. Valve selection is simplified by use of a tabular listing of sizes and ratings.

▲ For more details circle NED-855 F1 on enclosed inquiry slip ▲

Work-Holding Devices

FREE Sutton Tool Co.—Fifty-seven illustrations showing collet and diaphragm chucks, mandrels, arbors, collets, boring bars, adapters, spindles, and other work-holding devices of special design are found in 20-page Bulletin 70. A description of the product accompanies each picture. Featured is the Helimatic nondistorting chuck for machining thin wall parts. Devices are power and mechanically operated.

▲ For more details circle NED-856 F1 on enclosed inquiry slip ▲

Problem-Solving Industrial Coatings

FREE S. C. Johnson & Son, Inc.—Eighteen industrial coatings for metalworking industries, subject of a 4-page folder, have one or more of these uses: Production protection, improvement of appearance, mold or die release, and/or dry lubrication. Methods of application, coverage, drying time, and characteristic uses on various metals are given.

▲ For more details circle NED-857 F1 on enclosed inquiry slip ▲

take advantage of *Versatile* BEAD CHAIN

IT HAS THOUSANDS OF USEFUL, COST-SAVING APPLICATIONS!

Bead Chain is available in 5 diameters from 3/32" to ⅜" with tensile strengths ranging from 18 to 200 lbs., in a variety of metals and finishes. No matter what the requirement, our engineers will be glad to assist you in solving your chain applications.

For complete information send for FREE HELPFUL CATALOG

THE BEAD CHAIN MANUFACTURING CO.

16 Mountain Grove St., Bridgeport, Conn.

▲ For more details circle NED-858 F1 on enclosed inquiry slip ▲

BUY THE RIGHT CLAMP!

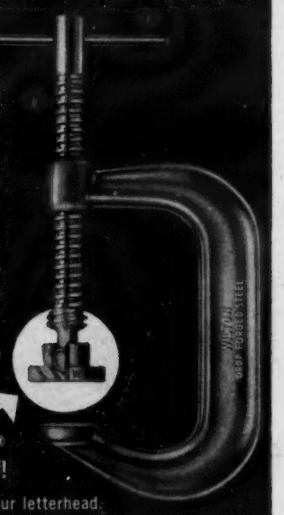
Make sure it has these important Wilton features!

1 CORRECT SIZE, STRENGTH, CAPACITY . . . COMPETITIVE PRICE. Your Wilton Distributor has 11 full series to choose from . . . in the style and price range you need.

2 HARDENED SPINDLES . . . Specially hardened in our white hot fire bath process.

3 PAINTED AND BOXED . . . in individual, protective cartons.

4 LOOSE-PROOF SWIVELS — the original "Perma•Pad"® guaranteed never to come off!



For more facts, attach this ad to your letterhead.

BUY WILTON!

BE SURE OF GETTING THE RIGHT CLAMP!

WILTON TOOL MANUFACTURING CO. INC.
SCHILLER PARK, ILLINOIS

Wilton C-Clamps are stocked and sold by leading Industrial Distributors everywhere.

NED-61

▲ For more details circle NED-859 F1 on enclosed inquiry slip ▲

NEW! Announcing a full line of PERMATEX COATING COMPOUNDS (stronger than concrete)

- ★ Easily applied — trowel, brush or spray
- ★ Four special products to meet every need
- ★ Four attractive colors
- ★ Covers metal, wood, concrete
- ★ Economical — one single coat protects
- ★ Resists chemicals, solvents, water, wear

PRODUCED BY THE WORLD'S LEADER IN SEALANTS...PROVEN BY PERFORMANCE!

FREE LITERATURE AND TECHNICAL ASSISTANCE . . . WRITE NOW!

This line of Permatex Coating Compounds, as all Permatex Products . . . sealants, adhesives, lubricants, degreasers, solvents . . . are available from quality Industrial Distributors.

PERMATEX COMPANY, INC.

DPT. NED2R • 300 BROADWAY • HUNTINGTON STATION, L. I., N. Y.
FACTORIES: BROOKLYN 35, N. Y. • KANSAS CITY 15, KANSAS
SEALANTS • ADHESIVES • LUBRICANTS

▲ For more details circle NED-860 F1 on enclosed inquiry slip ▲

Battery-powered magnets offer improved work handling at low cost

Sundstrand battery-operated lift magnets extend the work range of conventional hoists, cranes, and lift trucks without requiring major capital outlays or tying up equipment while making change-overs.

One lift is all that is required even when work moves from one shop area to another, to an outside loading dock, or to yard for storage because the power source moves right along with the work.

Two capacities

Either 2000 or 4000 lb of lifting capacity is provided by two models using 6- or 12-volt automotive-type batteries. Dial indicates need for recharge, usually is handled overnight.

Distributors:

Sundstrand Lift Magnets offer attractive sales opportunities. Investigate. Details on request.

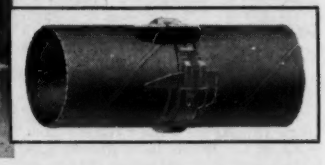
SUNDSTRAND-AMERICAN BROACH
DIVISION OF SUNDSTRAND CORPORATION
ANN ARBOR, MICHIGAN

For more details circle NED-861 F1 on enclosed inquiry slip

NAYLOR...
The Economical Steel Pipe

Pipe sizes from 4" to 30" in diameter in a wide range of wall thickness. NAYLOR Spiralweld steel pipe . . . easy to handle and install with built-in strength and safety. Suitable for most industrial applications.

For connecting NAYLOR pipe, all types of flanges and mechanical couplings are available in addition to the NAYLOR Wedgelock coupling illustrated. This positive coupling anchors securely to pipe ends. A hammer is the only tool required to connect or disconnect it.



Write for Bulletin No. 59 for data on pipe, fittings and connections.

NAYLOR PIPE Company
1247 E. 92nd St., Chicago 19, Illinois
Eastern U.S. and Foreign Sales Office:
60 East 42nd Street, New York 17, N. Y.

For more details circle NED-862 F1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

PLASTIC COATED BURLAP for making storage buildings and protecting equipment from weather

Ten-ounce burlap, extrusion coated on each side with a 4-mil film of Tenite polyethylene creates a material that affords low cost protection against rust and corrosion caused by humidity. Originally used in hutments for "mothballing" military equipment, the material in 40-in. widths is sewed into structures as long as 220 ft, with width and height of 40 and 14 ft, respectively. Zipper doors open to 12 x 10 ft.

Polyethylene plastic provides an efficient water vapor barrier, with dehumidification performed by dehumidifying units. Hooks fastened to the material are slipped over steel cables to support the structure. Sides are fastened to the floor by means of 2 x 4's embedded in mastic and secured to the concrete floor. The plastic coated burlap material and this type of building are expected to have numerous industrial and warehouse applications. • **Hardin Bag & Burlap Co.**, 1054 Constance St., New Orleans 13, La.

For more details circle NED-864 F1 on enclosed inquiry slip

COLORED EPOXY COATING applicable in any weather condition

Built-in plastic "membrane" afforded by PlastXcoat epoxy coating eliminates the need for extra coatings. It can be sprayed, rolled, or brushed onto wood, plastic, concrete, brick, glass, aluminum, and hard-to-paint Transite and exotic metals under any weather condition. Coating has high resistance to attack of moisture, salt water, and corrosive liquids and gases and will not chip, crack, or peel. It has been tested for more than 14 months in temperatures ranging from −73 to 250° F, and is effective for protecting oil refinery and chemical plant equipment, as an internal coating on natural gas lines, and on construction equipment, ships, barges, and truck-trailers. • **Bradco Plastics, Inc.**, 4916 Kirby Dr., Houston, Tex.

For more details circle NED-865 F1 on enclosed inquiry slip

Seals best...Protects best

FREE
SAMPLES and FACT FOLDER FOR DESIGNERS and ENGINEERS

BRIDGEPORT
INNER-SEAL®
RUBBER SEALING STRIP

Made of resilient sponge rubber locked into flexible spring steel flange, covered with oil and water-resistant Neoprene*. Assures a close-fitting seal that is air-tight, sun-tight, resists cold and heat. Easy to install, conforms to any shape, stops rattles, quiets slamming, absorbs shocks. Used for aircraft, hatch covers, shipping cases, refrigerated trucks, artificial lungs, generators, cushioning.

Write Dept. ED2 **Reg. T.M of DuPont*

BRIDGEPORT FABRICS, INC., Bridgeport 9, Conn.

For more details circle NED-866 F1 on enclosed inquiry slip

unless they're working
THIS WAY
they should have their strong heads examined!

the "Challenger"
Model No. 1056

- Capacity 1,500 lbs.
- 57-in. lifting height
- Synchronized 12-volt heavy duty system

$397.50 complete

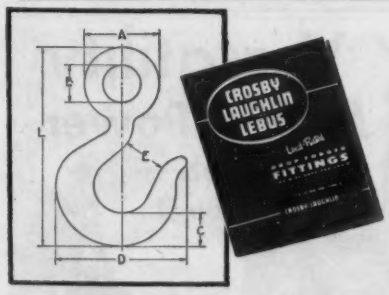
Over 80 proven models, each an I-B-H specialist, built to the highest engineering standards.

BIG JOE MANUFACTURING COMPANY
Vernon Blvd.
Wisconsin Dells, Wisconsin

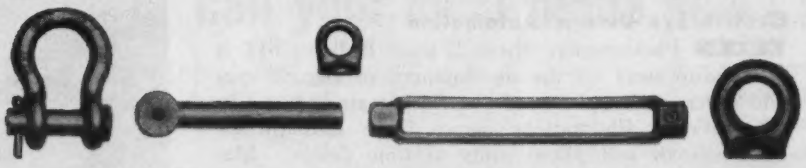
write for quotations for special applications

BIG JOE Hydraulic Lift TRUCKS

For more details circle NED-867 F1 on enclosed inquiry slip



—YOUR FREE GUIDE*



to 2000 types and sizes of PRE-DESIGNED

ready-to-install forged fittings

*Free catalog gives application data for 2000 types and sizes of forged fittings for wire rope and chain. Ask your industrial distributor for your copy.

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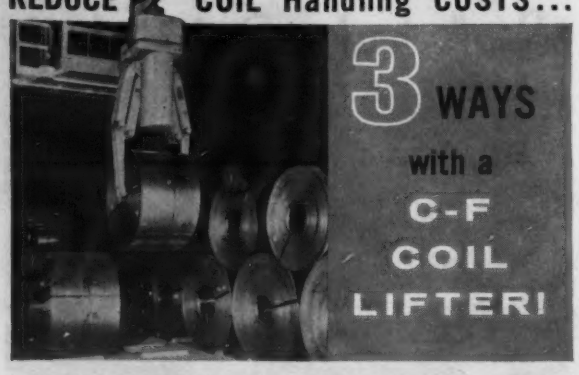
FT. WAYNE, INDIANA
Division of AMERICAN HOIST

For more details circle NED-863 F1 on enclosed inquiry slip

REDUCE COIL Handling COSTS...



1 **SAVE MANPOWER**—only 1 man, the crane operator, is required to operate the C-F Coil Lifter above.
2 **SAVE SPACE**—you can operate a C-F Coil Lifter in a minimum of space, as little as 10" to 12", between piles, regardless of coil width.
3 **ELIMINATE DAMAGE**—the strong mechanical grip, and legs remaining vertical at all times prevent any damage to stock or material.

Motorized C-F Coil Lifters with Motorized Swivels as above are designed for safe, fast, efficient one man operation. They allow the crane operator to grab, lift, carry and rotate, set down and release the load precisely—in minimum space—without additional help.

WRITE NOW FOR NEW BULLETIN **SL 32.**

CULLEN-FRIESTEDT Co.
1304 S. Kilbourn Ave. • Chicago 23, Ill.

For more details circle NED-870 F1 on enclosed inquiry slip

Cylinder selection and pricing is easy with 3 Hannifin Data Books

Get complete dimensional data and prices on all 3 lines of Hannifin Hydraulic Cylinders. For 2,000 psi systems (3,000 psi non-shock) we offer our famous heavy-duty Series "H". For circuits operated off 1,000 psi pumps, there's the new Series "L", the "thousand-pound" line; also, the "universal" Series "U". New price sheets are easy to use. They tell you when we can ship as well as what your cylinder will cost. Write us today.

HANNIFIN COMPANY
527 South Wolf Road • Des Plaines, Illinois
A DIVISION OF PARKER-HANNIFIN CORPORATION

For more details circle NED-871 F1 on enclosed inquiry slip

MOLYKOTE® M-88
BONDED LUBRICANT COATING

FREE SAMPLE!

Handy Applicator Bottle • Enough Lubricant to coat parts for evaluation • Absolutely FREE! • New industrial lubricating technique • Simply apply like a paint • Allow to air dry • Provides 100% safety against galling and seizing • Smooth, protective lubricating film bonds to most surfaces • Lifetime lubrication in many applications • Mail the coupon today.

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65 HARVARD AVENUE • STAMFORD, CONN.

The Alpha-Molykote Corp., 65 Harvard Ave., Stamford, Conn.
Please send me a FREE SAMPLE of MOLYKOTE M-88. NED 6
Name _____ Title _____
Company _____
Address _____
City _____ Zone _____ State _____

For more details circle NED-872 F1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Temperature Instruments & Controls

FREE Fenwal Inc.—Seventeen types of temperature controls are covered in 8-page Bulletin MC-103. Included are data on twelve styles of Thermoswitch units, six miniaturized local controls, four fire and overheat detectors, four snap-action controls, and seven electronic controllers.

For more details circle NED-873 F1 on enclosed inquiry slip

Scientific Photographic Equipment

FREE Burke & James, Inc.—Emphasis on micro and macrophotography cameras is noted in 148-page catalog of this photographic equipment supply house. Lens bank services, laboratory and darkroom needs, and temperature control systems are a few of the equipment categories covered in the scientific equipment section.

For more details circle NED-874 F1 on enclosed inquiry slip

Plastic Properties Chart

FREE Commercial Plastics & Supply Corp.—Charts on properties of thermoplastics, thermosets, and high pressure laminates are found in 16-page brochure. Section on laminates covers applications, characteristics of phenolics, silicones, melamines, and epoxies, plus mechanical, electrical, and thermal properties.

For more details circle NED-875 F1 on enclosed inquiry slip

Teflon in Stock

FREE Cadillac Plastic & Chemical Co.—How to use Teflon in sheets, rods, tubes, tape, and other shapes is explained in 8-page Bulletin A-7653. Fabricating techniques are outlined along with recommended tools and cutting speeds. Listed are Teflon's chemical, physical, thermal, and electrical properties.

For more details circle NED-876 F1 on enclosed inquiry slip

Compressible Liquid Spring Shocks

FREE Taylor Devices, Inc.—Handbook CH-1 on compressible liquid springs, Spring Shoks, dashpots, Time Delay Shoks, pipe systems, actuators, and accelerators. Facilities of this company for engineering and producing custom compressible liquid devices are shown.

For more details circle NED-877 F1 on enclosed inquiry slip

Tracking System Equipment

FREE Antlab, Inc.—20-page Catalog 61-1 for makers of mechanical and electronic components for missile and satellite tracking systems lists such recent developments as a new microwave receiver, a new series of 60,000 lb-ft antenna mounts, and a series of totally enclosed servo and electro-manual antenna mounts.

For more details circle NED-878 F1 on enclosed inquiry slip

Silver Brazing Alloys

FREE Air Reduction Sales Co.—Procedures, problems, and solutions are discussed in revised 24-page "Aircosil Silver Brazing Alloy Manual." All brazing alloys, from those in standard rod forms to the new Aircosil Fluxcor 45 with fluxing agent in the center of the wire, are covered. Diagrams help in selection of alloy to meet particular needs.

For more details circle NED-879 F1 on enclosed inquiry slip

Electric Eye Uses in Automation

FREE Photomation, Inc.—22-page Bulletin 611 is a roundup story on the development of electric eyes and covers many phases of electric eye applications in automation. Illustrations range from miniaturized light sources and photo units to time delays. Mechanical characteristics are given.

For more details circle NED-880 F1 on enclosed inquiry slip

Tape & Film Drive Sprockets

FREE LaVezzi Machine Works—Designers and original equipment manufacturers using tapes and films actuated by driving perforations will find much information on different types and sizes of sprockets in 8-page Brochure SP-52. A section devoted to special sprockets is contained in this well diagrammed bulletin.

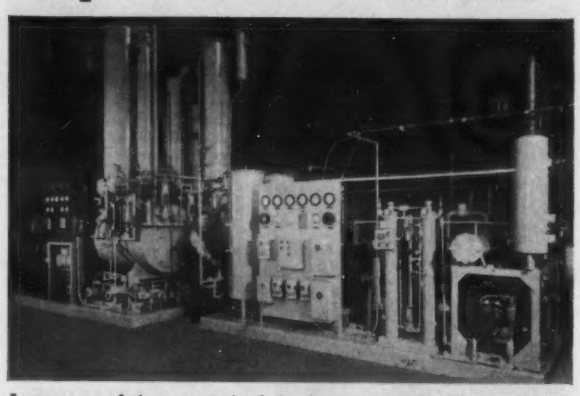
For more details circle NED-881 F1 on enclosed inquiry slip

Pressure-Sealed Electrical Leads

FREE Conax Corp.—Electrode glands provide pressure seals for electrical leads in systems operating from 0.005 microns absolute to 2500 psi at temperatures from −300 to 1850° F. Range is from 3.0 to 200 amps. Details on these electrode glands are presented in 8-page Catalog 960.

For more details circle NED-882 F1 on enclosed inquiry slip

DeMARKUS
PACKAGED GAS PLANTS
for producing your own
CO_2 • NITROGEN • INERT GASES



Large users of these gases (and dry ice) can reduce costs greatly by producing their own high-purity gases.
DeMarkus Automatic Packaged Gas Plants produce 50 to 500 lbs. per hour of CO2 for about 1c a pound and 2800 to 28000 SCFH of nitrogen for less than 2c per 100 SCFH. Compare these figures with your present costs.

Write for Bulletin CD-260 and a preliminary cost study.
Hydrogen and gas purification plants also available.

LOUIS DeMARKUS CORPORATION
and DeMARKUS INTERNATIONAL CORPORATION
(Western Hemisphere outside U.S.A.)
Specialists in Gas Manufacturing and Purification Processes
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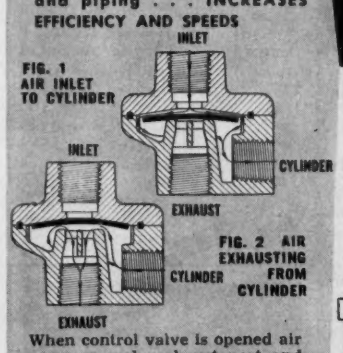
In Europe: N.V. "AMA", ALKMAAR, HOLLAND

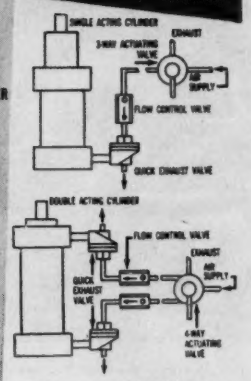
For more details circle NED-883 F1 on enclosed inquiry slip

NEW! Pneu-trol® QUICK EXHAUST VALVE

Fast air dumping AT THE CYLINDER permits use of smaller valves and piping . . . INCREASES EFFICIENCY AND SPEEDS



When control valve is opened air pressure seals exhaust port and diaphragm is deflected permitting air to pass thru the cylinder port (Fig. 1). When inlet pressure is relieved (by actuating valve in control circuit) the buildup of cylinder return pressure closes inlet port (Fig. 2) snapping the diaphragm off the exhaust port allowing instantaneous evacuation of exhaust air. *Write for complete details, specifications and prices.*



TYPICAL APPLICATIONS of Quick Exhaust Valves in Single and Double Acting Cylinders. Because exhaust air is dumped at cylinder, smaller diameter piping and smaller selector valves can be used

AUTOMATION AUTO-PONENTS INC. COMPONENTS
AUTO-PONENTS INC.
2929 Grant St. • Bellwood, Illinois

For more details circle NED-884 F1 on enclosed inquiry slip

GRAVELY Versatility
KEEPS Power
on the job—
All Year Long!

Cut expensive idle time
GRAVELY Doesn't Loaf—*GRAVELY* Works!

When you hire a man for a full-time job, you expect full time work. So why buy one-job equipment that loafs until its specialty is called for?

ONE 6.6 hp. Gravely Tractor powers 30 tools!
Choose the tools to fit your jobs—any season. From mowing to snow removal, the Gravely Tractor keeps busy saving time, saving money, year after year.

GET THE FACTS—SEE THE PROOF! See Gravely actually solving grounds maintenance problems, saving money. Ask for your FREE copy of "How To Cut Costs for Grounds Maintenance." Or better still, request a FREE demonstration. *Write Now!*

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P. O. Box 668-F Dunbar, W. Va.
SOLD & SERVICED BY AUTHORIZED GRAVELY DEALERS

For more details circle NED-885 F1 on enclosed inquiry slip

ALCOA ALUMINUM PATTERNED SHEET

Adds sales appeal to any product:

Where can *you* use it: Residential or commercial building? Large or small appliances? Trucks, buses or boats? Choose from 22 single-surface, 21 two-surface patterns in natural aluminum finish; or from 20 baked-on Alcoa* Tone-Cote colors.

Get fast delivery from your Alcoa distributor in many alloys, tempers, widths and lengths. For application help, call your Alcoa sales office.

*Trademarks of Aluminum Company of America

ALCOA ALUMINUM
ALUMINUM COMPANY OF AMERICA

For more details circle NED-886 F1 on enclosed inquiry slip

ALCOA ALUMINUM VYNALATE

Prefinished to save time, labor:

Vinyl laminated to aluminum sheet, Alcoa Vynalate* can be sheared, drawn, rolled and punched without harm. Perfect for inside walls and partitions, appliances, boats, aircraft, furniture, luggage and what-have-you. In 39 design-color combinations; widths to 48 in.; thicknesses from 0.015 in. to 0.051 in.

Your Alcoa sales office can give you more information, help with selection or application of Vynalate. Call today!

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ALCOA ALUMINUM
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For more details circle NED-887 F1 on enclosed inquiry slip

ALCOA ALUMINUM 3-D SHEET

Function with style built in:

Contemporary design makes Alcoa 3-D Sheet ideal for sunscreens, partitions, façades, enclosures, inexpensive architectural remodeling—any decorative or functional use. In four designs: *Regent, Egyptian, Baguette, Offset;* mill finish or 11 wear- and fade-resistant Alcoa Alumalure® colors.

For data, call your Alcoa sales office.

ALCOA ALUMINUM
ALUMINUM COMPANY OF AMERICA

For more details circle NED-888 F1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

QUICK-SETTING CEMENT
expands to hold objects securely

Anchoring of heavy posts and machinery, installing metal windows and cabinets in masonry, and setting electric wall boxes and ornamental iron railings are applications for Quick-Rock cement. A fine-textured powder that sets rock hard within 20 min after mixing with water, it can also be used to fill holes in factory floors. Product expands upon setting to hold heavy objects securely. ● Preco Chemical Corp., Westbury, L. I., N. Y.

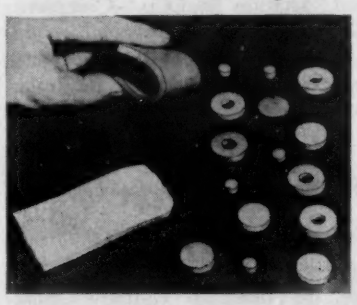
For more details circle NED-889 F1 on enclosed inquiry slip

PRESSURE-SENSITIVE ADHESIVE
air-dries to clear film in 20-30 min

Applied easily by brush, roller, or spraying, Adhesive 215 is a noninflammable, permanently tacky, pressure-sensitive adhesive that air-dries to a transparent film in 20 to 30 min. It will adhere to Plexiglas, polyethylene, vinyl, wood, metal, fabrics, glass, and other materials. When soaked in water for 1 to 2 min, adhesive becomes opaque and releases its hold for easy stripping. Dried films lose tackiness if moistened, but regain it if permitted to dry. ● Robert Langer Co., 507 Fifth Ave., New York 17, N. Y.

For more details circle NED-890 F1 on enclosed inquiry slip

ELASTOMERIC SPONGE
material is very soft and inert



Resistance to chemicals, acids, and fuels; high dielectric strength; and a broad temperature range are characteristics of this elastomeric sponge material. Molded from Fluorel 2141 elastomer, its hardness compares to that of a very soft rubber with a 20 durometer (Shore A) rating. The blown version of the inert material has about one-quarter the density of the solid elastometer. Uses include gaskets, seals, and plugs, vibration damping, and insulation. It is produced in sheets up to ½ in. thick and 9 in. square in a variety of pastel colors. Other sizes, molded shapes of higher and lower densities, and accurate dimensioned washers and gaskets can be produced. ● Industrial Electronic Rubber Co., 31945 Aurora Rd., Solon, Ohio.

For more details circle NED-891 F1 on enclosed inquiry slip

ALCOA ALUMINUM SPANGLE SHEET

Bright, sparkling color that lasts:

For interior decorative applications use the strikingly different aluminum sheet product—Alcoa Spangle Sheet. It has an unusual, glittering finish that sparkles with high lights against a contrasting background.

Alcoa Spangle Sheet is available in a range of anodized colors and is ideal for appliance trim, lighting fixtures, jewelry and novelty items, giftware and interior decorations. Write your Alcoa sales office for details.

ALCOA ALUMINUM
ALUMINUM COMPANY OF AMERICA

For more details circle NED-892 F1 on enclosed inquiry slip

ALCOA ALUMINUM TONE-COTE

Twenty beautiful, baked-on colors:

Formable after finishing without cracking, flaking, chipping or peeling, Alcoa Tone-Cote eliminates shop painting, its hazards and high cost. Lustrous, baked-on enamel in 20 standard colors adds sales appeal to appliances, mobile homes, signs, awnings, kitchen cabinets, etc. Thicknesses from 0.016 in. to 0.063 in.; widths to 60 in.; coils or flat sheets.

For technical details and literature, write your Alcoa sales office.

ALCOA ALUMINUM
ALUMINUM COMPANY OF AMERICA

For more details circle NED-893 F1 on enclosed inquiry slip

For all your needs in Alcoa Aluminum Sheet and Plate, call your local Alcoa sales office

Your nearby Alcoa distributor stocks a wide range of warehouse standard Alcoa Aluminum Sheet and Plate in most-wanted sizes, types and alloys. He offers fast delivery from his warehouse, complete technical information.

For more data on the Alcoa Aluminum specialty sheet and plate items on this page, call your Alcoa sales office; or check and mail the coupon at right . . . today!

ALUMINUM COMPANY OF AMERICA
859-F Alcoa Building, Pittsburgh 19, Pa.
Please send me the following:

- ☐ ALCOA ALUMINUM PATTERNED SHEET BROCHURE
- ☐ ALCOA VYNALATE BROCHURE
- ☐ ALCOA ALUMINUM 3-D SHEET FOLDER
- ☐ ALCOA ALUMINUM TONE-COTE BROCHURE, WITH COLOR CHIPS

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Title_____
Company_____
Address_____
City_____ Zone____ State____

ALCOA ALUMINUM
ALUMINUM COMPANY OF AMERICA

AIR CUTS OFF AUTOMATICALLY

Handy, versatile A-10 Air Gun shoots air where you want it, when you want it. Flex nozzle when you want air, toss hose aside when you don't. Made of grease-resistant Neoprene and machined brass. No handles, levers, springs or packing. Can't clog, break, or get out of adjustment. Hardened and plated steel tip prevents damage from dropping or dragging.

FITS ¼" IRON PIPE THREAD

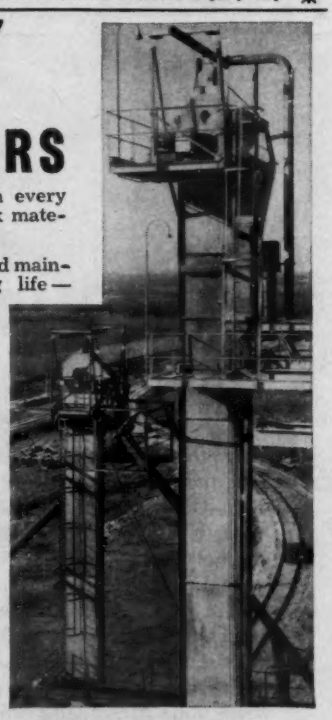
Write today for catalog and price sheets to

HECKETHORN MFG. & SUPPLY CO.
DYERSBURG, TENN.

"Makers of Flex-Tip Water Nozzles"

▲ For more details circle NED-894 F1 on enclosed inquiry slip ▲

JEFFREY BUCKET ELEVATORS



Rise to the occasion in every industry requiring bulk material handling.

Initial economy, reduced maintenance expense, long life—all important in every Jeffrey installation.

Types include vertical or inclined, continuous, positive or centrifugal discharge, standard or super-capacity, open or enclosed, chain or belt . . . up to 300-ft. centers . . . as much as 900 TPH.

Whatever your elevator need, get a quotation from Jeffrey. Write for Catalog 950 to General Engineering Sales Division, The Jeffrey Manufacturing Co., Columbus 16, Ohio.

JEFFREY

THE JEFFREY MANUFACTURING COMPANY • COLUMBUS 16, OHIO

▲ For more details circle NED-895 F1 on enclosed inquiry slip ▲

Vlchek Plastic Boxes for every need

Vlchek Model P-824
24 compartment, clear plastic box
one of largest compartmented boxes ever molded

If you require plastic boxes for packaging your products . . . or for use in plant and office operations, see Vlchek.

Vlchek, pioneer plastics manufacturer, stocks boxes in 30 standard sizes . . . ready for immediate shipment. These are available in 1,000 compartment arrangements . . . crystal clear, tinted transparent, or solid colors. Complete imprinting service.

Or, if you need a special box of any type or shape, Vlchek will design and custom-manufacture it. Write us today. Our representative will call promptly.

AA-9913

The **Vlchek** *Tool Co.*
SINCE 1895
Cleveland 4, Ohio

▲ For more details circle NED-896 F1 on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

Semiconductor Materials & Systems

FREE Tecumseh Products Co., Ohio Semiconductors Div.—Products made and production capabilities of this division are subjects of an illustrated 12-page brochure. Materials and components, subsystems and control mechanisms, and thermoelectrics are covered, as are research and development facilities.

▲ For more details circle NED-897 F1 on enclosed inquiry slip ▲

Guide to Masonry Anchoring

FREE Rawlplug Co.—"Install it for Less" is title of an 8-page illustrated booklet which aids in selecting the correct masonry anchor and anchoring method for a wide range of fixtures. Technical selection factors are presented, as is a cost analysis.

▲ For more details circle NED-898 F1 on enclosed inquiry slip ▲

Selective Plating Equipment

FREE Selectrons, Ltd.—Over two dozen engineering applications for the Selectron selective plating process, and the equipment used, are covered in 6-page illustrated Bulletin SP201. Typical uses are touch-up of damaged areas without disassembly and resizing of mis-machined components. Wide range of sizes and auxiliary equipment is detailed, with prices starting at $495.

▲ For more details circle NED-899 F1 on enclosed inquiry slip ▲

Cutters, Reamers & Special Tools

FREE Special Cutter & Tool Co.—Among the high speed precision cutting tools shown in 4-page bulletin are taper, ball nose taper, multistep, shell, expansion, line, and semiline reamers. Also included are keyway, interlocking milling, and ball nose rose cutters.

▲ For more details circle NED-900 F1 on enclosed inquiry slip ▲

Heavy-Duty Lathes

FREE R. K. LeBlond Machine Tool Co.—Complete description is given NE design heavy duty lathes in 16-page Bulletin HD-1016. These small 20-hp machines are available in four sizes which provide from 17½ to 25-in. swing over the beds. They afford 27 different spindle speeds and 60 thread changes. Toolroom and plain bed gap lathes are also described.

▲ For more details circle NED-901 F1 on enclosed inquiry slip ▲

Tables & Formulae

FREE Automatic Electric Co.—Fourth in a series, 32-page booklet "Tables and Formulae" contains tables of weights and measures, math symbols and constants, the Greek alphabet, temperature conversions, binary numbers, powers of numbers, electrical formulas, the fundamentals of Boolean algebra, and much other information useful to scientists and engineers.

▲ For more details circle NED-902 F1 on enclosed inquiry slip ▲

Gas-Powered Lift Trucks

FREE Automatic Transportation Co.—Flexibility of gas power, plus the efficiency of electric drive are combined in the GLF series of gas-powered lift trucks. This aspect is discussed in 16-page "how" booklet. Basic specs for 13 standard models are given, and applications are pictured.

▲ For more details circle NED-903 F1 on enclosed inquiry slip ▲

Enhancing Appearance with Metallized Plastic

FREE Coating Products, Inc.—"Brighten Up Your Product with Mirro-Brite Mylar" is title of a sampler showing the entire line of metallized Du Pont polyester film. Thirty-three samples include six colors, 24 embossed patterns, and perforated, flocked, and pressure sensitive backed lamination specialties.

▲ For more details circle NED-904 F1 on enclosed inquiry slip ▲

Thermal Dryer

FREE McNally Pittsburg Mfg. Corp. — Descriptions, photographs, and dimensional drawings of the Flowdryer, a thermal dryer for drying coal and other minerals are contained in 6-page Bulletin 361. Designed in sizes to meet requirements, the unit is automatic in operation. A single unit handles 25 to 500 tons per hour with 3 to 36 tons per hour evaporation.

▲ For more details circle NED-905 F1 on enclosed inquiry slip ▲

Hand Tool Buyer's Guide

FREE Vaco Products Co.—216-page illustrated Buyer's Guide lists 216 screw and nut drivers, plus over 250 other tool items and display units. Specifications and prices are listed for these tools, pliers, and wrenches.

▲ For more details circle NED-906 F1 on enclosed inquiry slip ▲

Large, Stainless Steel

ROLLS

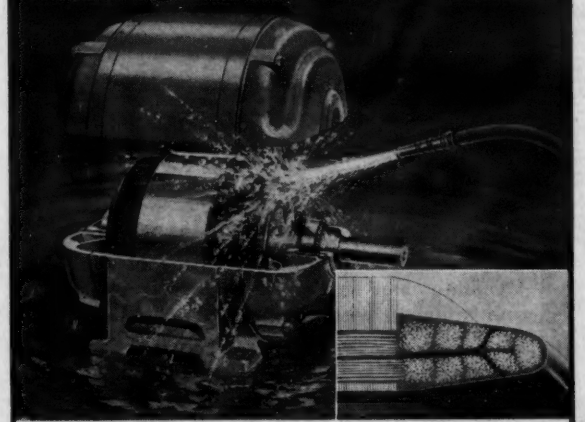
and Cylinders, made to your exact requirements

Let us make your stainless, wood and special rolls and cylinders. Send for catalog B-22 today.

ROBERT A. MAIN & SONS, INC.
Main St. & New St., Wyckoff, N. J. Phone: TWinbrook 1-2010

▲ For more details circle NED-907 F1 on enclosed inquiry slip ▲

U. S. EVERSEAL
WINDINGS ENCAPSULATION
Protects against heat . . . water . . . chemicals



Fully-molded U.S. EVERSEAL resin encapsulation protects windings completely against heat, cold, vibration, acids, gases (even in high concentrations), lye, potash, ammonia, caustic soda, salt, abrasives, carbon black, graphitic dusts, and many other motor-killing conditions. Fully-molded EVERSEAL in *complete encapsulation* is available on any U.S. motor, ½ h.p. to 125 h.p.; U.S. EVERSEAL silicone rubber insulation, on form-wound motors to 1000 h.p. *Send for free* EVERSEAL *literature.*

U.S. ELECTRICAL MOTORS Inc.
Box 2058, Los Angeles 54, California—or Milford, Conn.

▲ For more details circle NED-908 F1 on enclosed inquiry slip ▲

Lovejoy Precision-Made Industrial UNIVERSAL JOINTS

FOR APPLICATIONS UP TO 1750 RPM.

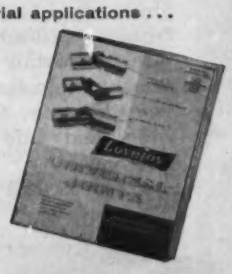
Standard and Heavy Duty Single Joints—Type D

Standard Double Joints—Type DD

Booted Joints

This high quality line of universal joints is available in a wide range of sizes and types for all industrial applications . . .

- 10 to 250 hp. at 100 rpm.
- Standard joints operate at speeds to 1500 rpm., heavy duty to over 1750 rpm.
- Single joints operate through full 40° working angle, double joints 80°
- Boot provides effective means for proper lubrication . . . eliminates dust . . . can be removed in field



Ask for recommendations on your application. Request Catalog D-61 and prices.

Lovejoy
First Name in Power Transmission Equipment

LOVEJOY FLEXIBLE COUPLING CO.
4803 West Lake St. • Chicago 44, Illinois

▲ For more details circle NED-909 F1 on enclosed inquiry slip ▲

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SCHRADER
HYDRAULIC
GAUGES
. . . Compact!

USE FOR: dependably accurate service and long cycling life. On all kinds of hydraulic systems and machines, even those toughest on gauges.

FEATURES: Specially designed built-in dampening device protects from rapid or pulsating pressure damage. Positive stop wards off failure caused by overloading and shock. Accessible adjusting device. Positive, spring-loaded direct action principle absorbs shock and overload that damage other types.

CONSTRUCTION: Completely enclosed in durable hammertone finished aluminum case. White, non-corrosive plastic dial face. Easy to read black calibrations. Replaceable internal parts are interchangeable. Has ¼ NPT male thread. Priced from $13.00 to $14.95.

Schrader #	Pressure range PSI	Calibrations Numerals	Calibrations Lines
30019-0500	0-500	100 lbs.	20 lbs.
30019-1500	0-1500	300 lbs.	50 lbs.
30019-3000	0-3000	600 lbs.	100 lbs.
30019-5000	0-5000	1000 lbs.	200 lbs.

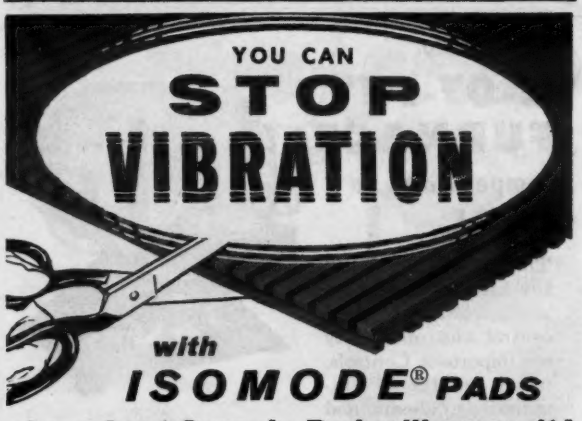
Your nearby distributor has them in stock now! Consult Yellow Pages or write for his address.

Schrader a division of SCOVILL

A. SCHRADER'S SON
Division of Scovill Manufacturing Co.
459 Vanderbilt Ave., Brooklyn 38, N. Y.
QUALITY AIR CONTROL PRODUCTS

For more details circle NED-910 F1 on enclosed inquiry slip

YOU CAN
STOP
VIBRATION



with
ISOMODE® PADS
Low-Cost Sample Pad will prove it!

Isolate heavy machine vibration effectively and cut down noise with ISOMODE PADS made of durable, oil-resistant DuPont Neoprene. Patented design supports 200 pounds of machinery with only four square inches of pad. *Eliminates need to anchor machinery;* makes machine installation and re-location easier and more economical.

Send for details of one-pad trial offer at discount price, and free technical literature. Ask our representative to call and analyze your requirement.

Complete Line of Products For Vibration Isolation

ISOMODE
DIVISION MB ELECTRONICS
A DIVISION OF TEXTRON ELECTRONICS, INC.
1066 STATE STREET, NEW HAVEN 11, CONN.

For more details circle NED-911 F1 on enclosed inquiry slip

RING A BELL
LIGHT A LIGHT
STOP or START a MACHINE
STOP GO

C·O·U·N·T·S ELECTRICALLY

DURANT
Electric 'SP' PREDETERMINED COUNTER

(COUNTS ELECTRICALLY and CLOSES SWITCH AT END OF PRE-SET COUNT)
Eliminates costly over-runs or time consuming under-runs. Actuated by Photo Electric Cell, Tube, Relay, or Contact Switch. Counter can be located where desired. Predetermined count may be set at any figure to 99,999. Hundreds of applications in all phases of production and instrument work.

SMALL • COMPACT • RUGGED • FAST • ACCURATE

Send for Catalog No. 56

DURANT MANUFACTURING CO.
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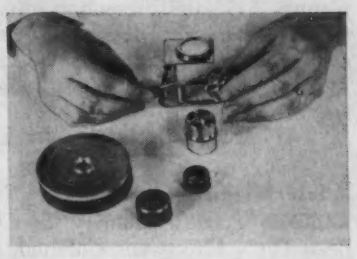
22 Thurbers Ave. Providence 5, R. I.
Representatives in Principal Cities

DURANT
COUNTING INSTRUMENTS

For more details circle NED-912 F1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

BARRIER HAND CREAM prevents rust and finger marks



The transfer of salts, acids, and moisture of perspiration to polished or highly machined surfaces of parts being inspected or assembled by hand is prevented by Kerodex 71 barrier cream. This water-repellent cream acts as an invisible glove because it is greaseless and stainless. It also affords hand or skin protection against liquid irritants such as acids, alkalies, and solvents. • **Ayerst Laboratories,** 22 E. 40th St., New York 16, N. Y.

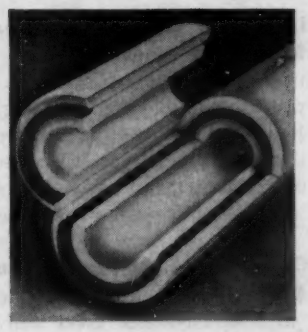
For more details circle NED-913 F1 on enclosed inquiry slip

VINYL-COATED ALUMINUM for decorative and wear applications

Alcoa Vynalate is a laminate of aluminum sheet and vinyl plastic film which is available in 39 decorator colors and many linear patterns, including striped effects. It can be embossed and printed with up to five colors to obtain desired finish effects, and it is made in up to 48-in. wide coils to any practical length. Metal thicknesses range from 0.015 to 0.051 in., in a variety of alloys and tempers. Delivery time is 6 to 7 weeks in minimum quantities of 12,000 sq ft. • **Aluminum Co. of America,** 791 Alcoa Bldg., Pittsburgh 19, Pa.

For more details circle NED-914 F1 on enclosed inquiry slip

PIPE & VESSEL INSULATION two types have −350 to 220° F range

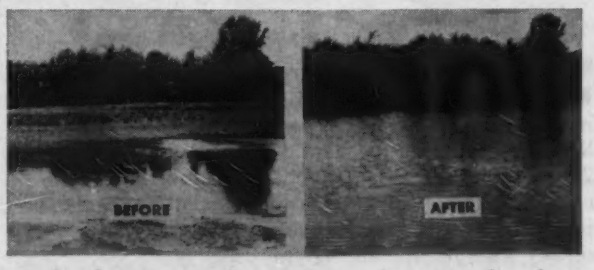


Protection under a wide range of operating conditions is afforded by Vapo*Lock pipe and vessel insulation, available in either Styrofoam or urethane types. Its tongue and groove joint system provides a barrier against heat and moisture vapor transmission. Insulation resists mold, fungus, vermin, insects, and sudden temperature changes. Operating range is −350 to 220° F in cool dry or hot humid air, corrosive atmospheres, and underground. • **M M M, Inc.,** Box 2114, Houston 1, Tex.

For more details circle NED-915 F1 on enclosed inquiry slip

AQUATIC HERBICIDE controls submerged broadleaf weeds

Insoluble ester form of Chem Pels 2, 4-D pelletized herbicide for chemical control of submerged and emergent broadleaf pond or lake weeds contributes to slow,



regulated toxicant release of ingredients to the plant intake structure. The pelletized product is not affected by water dilution, depth, or flow, and provides effective residual lethal concentrations for 1 to 3 years. It is nontoxic to humans, animals, fish, or aquatic organisms. Application is without special equipment at the rate of 100 to 150 lb per acre. • **Chemical Insecticide Corp.,** 30 Whitman Ave., Metuchen, N. J.

For more details circle NED-916 F1 on enclosed inquiry slip

UTICA

a revolutionary new wire stripper from

UTICA

Strip fast and clean! Eliminate nicking! Reduce insulation marking! Handle any wire size from #12 to #26 . . . and do it all with Stripwright®. . . Utica's revolutionary new wire stripper. There's never been anything like it. A lightweight, versatile, pistol-grip tool engineered for ease of handling in limited access areas and designed to the same quality standards as all other Utica tools. Write for complete information.

Utica Drop Forge & Tool Division, Kelsey-Hayes Company, Utica 4, N. Y.

For more details circle NED-917 F1 on enclosed inquiry slip

EQUIP EVERY DEPARTMENT INDIVIDUALLY and TAKE THE LOAD OFF YOUR BLUE PRINT ROOM

DRY PAPER-VAPOR DEVELOPER
LOWEST PRICE WHITEPRINTER—Prices Start at 129.50
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C-6

For more details circle NED-918 F1 on enclosed inquiry slip

BASIC for ELECTRICAL MEN | WRITE TODAY FOR *NEW* BIDDLE BULLETIN 21-45D

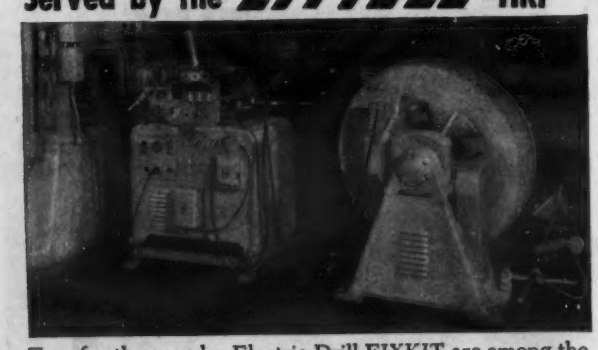
B-113

▲ For more details circle NED-919 F1 on enclosed inquiry slip ▲

FIXKIT by *Black & Decker*

Gets Its Tops From Presses

Served by the *LITTELL* "HRP"★



Tops for the popular Electric Drill FIXKIT are among the many precision stampings produced in Black & Decker press rooms with the mobile Littell HRP straightening and feeding the stock. The feeding and straightening cycle of the self-powered, hydraulically driven HRP unit is synchronized with the stamping cycle of any standard press by a single electrical connection. Coil curvature is removed and the straightened stock is fed to the die area in perfect timing with the press stroke. The HRP feeds from either side of the press, from front to back, or from special angles to produce specially shaped parts. It "stays put" at one position or can be easily moved to another press.

★ Hydraulic Rack & Pinion Straightener-Feed

COILY Says...

"HRP can give you the same accurate straightening-feeding action and easy-to-move convenience that pays off at Black & Decker. That is a Littell Reel in the above picture, too."

Write for these Bulletins— Bulletin B-10 for HRP Straightener-Feeds; Series "D" Bulletins for Littell Reels

F. J. LITTELL MACHINE CO.
4169 Ravenswood Ave., Chicago 13, Ill.

▲ For more details circle NED-920 F1 on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

Creative Sales Ideas

"Forging Ahead in Business with Unusual Creative Sales Ideas" is title of 16-page Catalog No. 2 which pictures 551 sales promotion gifts and advertising specialties. These business gifts range in price from 1 cent each (in quantity) to $30. Price is $1. Write Marvic Advertising Corp., 861 Manhattan Ave., Brooklyn 22, N. Y.

▲ For more details circle NED-921 F1 on enclosed inquiry slip ▲

Industrial Fire Fighters

FREE Food Machinery & Chemical Corp., John Bean Div.—Effectiveness of high pressure fog in fighting fires is emphasized in 16-page catalog on "Industrial Fire Fighters." Specs and performance features are listed for all in-plant stationary, mobile, and skid-mounted equipment.

▲ For more details circle NED-922 F1 on enclosed inquiry slip ▲

Predetermined Weight Scales

FREE Exact Weight Scale Co.—Specifications on over 30 different Shadograph predetermined weight scales are presented in 8-page Catalog 3333. Designed for repetitive industrial and laboratory weighing, these 1:1 ratio scales range in capacity from 50 grams to 100 lb. Projected shadow image of light functions as the weight indicator.

▲ For more details circle NED-923 F1 on enclosed inquiry slip ▲

Bronze Welding Electrodes

FREE Ampco Metal, Inc.—Series of data charts presents information on comparative bronze electrodes, melting rates and efficiencies, electrode and filler rod specifications, and recommended welding currents for various welding procedures. It covers Ampco's Weldrod color code, deposit density, and other data.

▲ For more details circle NED-924 F1 on enclosed inquiry slip ▲

Controlled Humidity Cabinets

FREE Blue M Electric Co.—Controlled humidity cabinets in 6-page Bulletin 7005C have Power-O-Matic 60 saturable reactor controls, proportional no-cycling control systems. Data are also included on the Magni Whirl utility water bath, utility refrigerated bath, and utility oil bath units.

▲ For more details circle NED-925 F1 on enclosed inquiry slip ▲

Industrial Casters & Wheels

FREE Saginaw Products Corp.—Data on industrial, pneumatic, and precision casters and wheels are provided in 35-page Catalog CW-61. It features the Red-Tred polyurethane wheel line and includes sections on special caster accessories and military specification casters and wheels.

▲ For more details circle NED-926 F1 on enclosed inquiry slip ▲

Collecting Past-Due Accounts

FREE United States Collection Assn., Inc.—Importance of customer good will even while using strong appeals for payment of past-due accounts is stressed in the 8-page booklet "How To Collect MORE Past-Due Accounts." Several cash-getting techniques are suggested.

▲ For more details circle NED-927 F1 on enclosed inquiry slip ▲

Sanitary Fittings, Valves & Tubing

FREE Terriss-Consolidated Industries — Line of stainless steel sanitary fittings for the process industries is subject of 20-page catalog and price list. Included are fittings of various configurations, valves, pipe hangers, angle cocks, relief valves, and various Tri-Clamp fittings.

▲ For more details circle NED-928 F1 on enclosed inquiry slip ▲

Reducing Cleaning Maintenance Costs

FREE Breuer Electric Mfg. Co. — Seventy-nine money saving operations performed by the Tornado Series 400 industrial vacuum cleaner are detailed in 20-page illustrated brochure. Boiler cleaning, recovering valuable materials, cleaning motors and electric panels, drapery maintenance, and rapid wet pick-up of any solution are among the uses.

▲ For more details circle NED-929 F1 on enclosed inquiry slip ▲

Lock Nuts

FREE Grip Nut Co.—Size ranges, materials available, physical and mechanical requirements, and welding information for an extensive line of clinch, weld, special, and semifinished lock nuts are covered in 20-page Catalog 161. Each type is illustrated.

▲ For more details circle NED-930 F1 on enclosed inquiry slip ▲

T-J CUTTERS

Designed To Do *More* Jobs... Produce *More* Work... Save *More* Production Time and Cost

Proved, definitely, as the cutting tool for the die-sinking industry, T-J now offers an expanded cutter line for the precision milling of today's high speed, high production manufacturing. The new line has been designed to do more, as well as add to individual cutter life. Cutters feature a high helix angle, double back-off, right or left hand spiral, and flats on the shanks for set screw type chucks. Write today for Catalog No. 259 and complete details to The Tomkins-Johnson Co., 2425 W. Michigan Ave., Jackson, Michigan.

Representation in all major areas, including Canada.

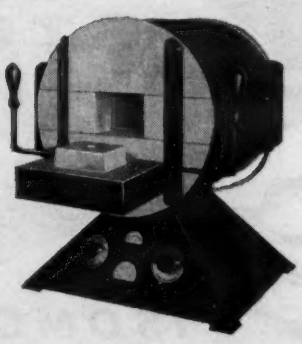
T-J TOMKINS-JOHNSON
DIVISIONS: AIR AND HYDRAULIC CYLINDERS...CUTTERS...CLINCHERS

▲ For more details circle NED-931 F1 on enclosed inquiry slip ▲

Hevi-Duty

"G-07-PT" FURNACE

temperatures to 2600° F.



This furnace is designed for high-temperature work where accurate control and uniformity are important. Controls, which provide 48 temperature gradients, and an indicating pyrometer are located in the pyramid base. For greatest uniformity in the heating chamber, three heating elements are installed over and three are beneath the refractory muffle.

Write for Bulletin 957 for full details.

Type	Watts	Chamber			Price
		W.	L.	H.	
G-07-PT	3500	4"	7"	2¾"	$585.00

*Operating voltage either 115 or 230 A.C. only.

HEVI-DUTY

A DIVISION OF BASIC PRODUCTS CORPORATION

HEVI-DUTY ELECTRIC COMPANY, WATERTOWN, WISCONSIN

Industrial Furnaces and Ovens, Electric and Fuel • Laboratory Furnaces • Dry Type Transformers • Constant Current Regulators

▲ For more details circle NED-932 F1 on enclosed inquiry slip ▲

The SAFE cleaner for electric motors

SAFETY SOLVENT DEGREASER

Safe from toxic fumes and fire!

Approximately 25 times safer than carbon tetrachloride! SS-25 has a dielectric constant of 25,000 volts . . . with none of the fire hazards of petroleum products such as kerosene and naphtha. Local fire marshals and plant safety engineers endorse SS-25 because of its non-flammable qualities . . . ease of use for spray or immersion cleaning.

- no flash at the boiling point!
- corrosion free – residue on drying zero!
- safe for skin
- removes grease and oils without damage to surface metal, paint or rubber
- prevents shorting of the commutator
- increases life of brushes
- prevents bearings from becoming clogged with grease and dirt

NATIONAL CHEMSEARCH CORP.
2417 Commerce Street, Dallas, Texas
Offices in: Los Angeles • St. Louis • New York

▲ For more details circle NED-933 F1 on enclosed inquiry slip ▲

THRED-TAPE SEALS ANYTHING

ALL SERVICES: chemicals, corrosives, hydraulic fluids, Freon 22, aromatic fuels, solvents, toxics, gases.

ALL TYPES OF PIPE: plastic, aluminum, stainless steel, ceramic, synthetic rubber, carbon.

ALL THREADED CONNECTIONS Temperature range −250° to +500°F., pressures to thousands of pounds.

¼" and ½" rolls available in exclusive cutter-dispenser.*

Just cut to length and wrap tightly around pipe. Press overlap to secure and make connection in usual fashion. No mess.

Packaged in a protective, clear plastic box in ¼", ½", ¾" and 1" x 288" rolls, also ½" x 576" rolls.

Request sample and full information. **Pat. pend.*

John Crane® CRANE PACKING COMPANY

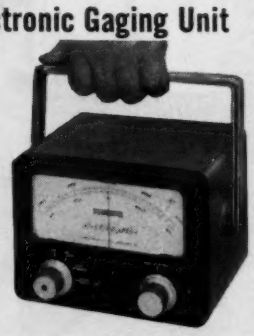
6411 OAKTON STREET, MORTON GROVE, ILLINOIS (*Chicago Suburb*)
In Canada: Crane Packing Co., Ltd., Hamilton, Ontario

For more details circle NED-934 F1 on enclosed inquiry slip

electro-probe

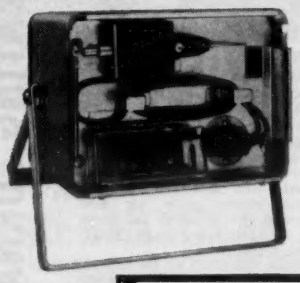
Low Cost, Portable Electronic Gaging Unit

NEW!



Now more compact, more versatile, easier to use. Many new features.

- Feather-light touch
- New contact tip design
- Fast zero-setting



- Battery life quadrupled
- Improved meter visibility
- Completely self-contained

For demonstration or brochure, write

FEDERAL PRODUCTS CORP.
1176 Eddy Street
Providence 1, Rhode Island

Ask FEDERAL First

FOR RECOMMENDATIONS IN MODERN GAGES . . .

Dial Indicating, Air, Electric, or Electronic—for Inspecting, Measuring, Sorting, or Automation Gaging

For more details circle NED-935 F1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

PIPE WRAP CALCULATOR tells how much is needed for job

This 6½-in. diameter circular slide-rule calculator will show how much pipe line outer wrap is needed for any job and the total cost of the material. It will also tell the corrosion engineer how much he can save by specifying Fiberglas outer wrap. • Owens-Corning Fiberglas Corp., Toledo 1, Ohio.

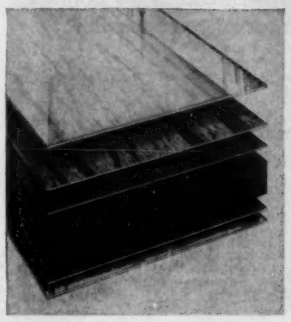
For more details circle NED-937 F1 on enclosed inquiry slip

STEEL GALVANIZING PROCESS corrosion protection improved

Improved process for hot-dip galvanizing of steel increases corrosion protection in industrial and marine atmospheres by 20 to 90 per cent. Improvement involves addition of a slight amount of magnesium (0.04 to 0.05 per cent) to the galvanizing bath. Magnesium can be maintained in the bath without difficulty and facilitates the galvanizing operation in areas of drainage and icicle formation as well. Coating produced has a satin-white silver appearance. • Dow Chemical Co., Midland, Mich.

For more details circle NED-938 F1 on enclosed inquiry slip

SOLID PLASTIC BOARD made in decorative, wood patterns



Screw holding power of birch and a hardness 50 per cent higher than solid hickory are features of Norplex decorative plastic board. Because it is solid and structurally rigid, it requires no backing. Board is available in almost any decorative or natural wood pattern; is heat, abrasion, stain, and chip resistant; and will not absorb moisture. Edges can be shaped to any profile with standard woodworking machinery and may be stained, lacquered, and finished to match the face. Heat and 1000-psi laminating pressure fuse the melamine overlay, coated decorative sheets, phenolic covered paper, resin impregnated wood fiber core, and underlay sheet into a solid mass which will not separate or warp. Uses include laboratory and hospital equipment, schoolroom desks, and institutional furniture. • Northern Plastics Corp., Decorative Products Div., La Crosse, Wis.

For more details circle NED-939 F1 on enclosed inquiry slip

GENERAL ELECTRIC CAST-IN IMMERSION HEATERS are your best means of melting soft metals at temperatures up to 950 F. Tubular Calrod® heaters are cast into iron to provide large heating area and protection for the heater, as well as quick heating with low radiation loss. Models from 750 to 10,000 watts are available from General Electric's complete line of heating equipment.

FREE 48-PAGE CATALOG with completely indexed heaters and heating control prices, application tips, tables and curves. Write Section 757-05, General Electric Company, Schenectady 5, N. Y.

GENERAL ELECTRIC

For more details circle NED-940 F1 on enclosed inquiry slip

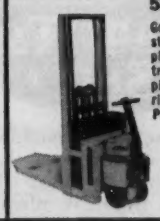
GO-GETTER *Finger Tip Control for Speed, Ease, Safety*

Go-Getter powered lift trucks are available in six basic models in each of four series (stand-on or walkie, explosion proof or standard) with a range of sizes and capacities in each.

The Go-Getter is fully powered for both traction and lift. Safety factors include fingertip lift control and warning horn. Dynamic brake for down-grade control and deadman mechanical brake for positive stops are controlled by a single directional switch. Stand-on models give the operator a clear view in any direction of travel. Position of operation is fully inside the truck, offering protection from obstructions.

INDEX No. 54.11
Go-Getter low-lift platform model (ride-on explosion proof) for transporting skids. Also in standard and walk-along series.

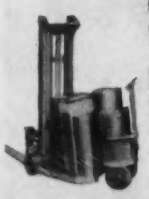
INDEX No. 52.12
Go-Getter (Walk-along standard) high lift platform model for transporting and high piling skids. Also in ride-on Explosion Proof series.



INDEX No. 52.21
Go-Getter (walkie standard) low lift model for transporting pallets. Also in ride-on and explosion proof series.

INDEX No. 53.22
Go-Getter (stand-on standard shown with overhead guard) high fork lift straddle model for narrow aisle tiering of pallets or skids. Also in walk-along and explosion proof series.

INDEX No. 55.23
Go-Getter (walk-along explosion proof) counterbalanced high lift fork model for tiering skids or pallets. Also ride-on and standard models.



INDEX No. 52.30
Go-Getter (Combination walk-along rider) towing tractor. Also in walk-along only and standard and explosion proof ride-on series.

REVOLVATOR CO.

ESTABLISHED 1904

Designers and Manufacturers of Portable Elevators, Power and Hand Lift Trucks, Hydraulic and Traction Elevators, Carboy and Barrel Dumpers, Portable Cranes, Positioners, Storage Racks, Turntables and Other Material Handling Equipment. 8732 Tonnele Ave.,

NORTH BERGEN, NEW JERSEY

Sales Representatives in Leading Centers

For more details circle NED-941 F1 on enclosed inquiry slip

How our small plant solved its waste disposal problem . . . WITHOUT CAPITAL OUTLAY. . . . .

Pat. No. 2,900,096

DEMPSTER-DUMPMASTER Equipped Hauler Provides Containers and Service for Small Fee

Our small Midwestern manufacturing firm did not generate enough refuse to justify ownership of its own refuse disposal system. Yet, it was plagued by unsightly trash piles, fire hazards and scattered refuse in the plant yard.

Our plant engineer then heard of a DEMPSTER-DUMPMASTER equipped private hauler in the adjoining city. A survey revealed that two big-capacity refuse containers, placed one at each end of the plant, would handle the entire refuse accumulation.

The private hauler placed the containers, and a small monthly fee covered maintenance, labor, hauling and dumping refuse. No capital outlay was involved, disposal costs were reduced, and plant housekeeping was vastly improved.

In all major cities, private haulers who own DEMPSTER-DUMPMASTER equipment render fast, efficient, low-cost refuse storage and collection service. They place one or 100 containers at your service for a reasonable fee. A free brochure describes their service in detail.

DEMPSTER-DUMPMASTER

DEMPSTER-DUMPSTER

DEMPSTER DUMPMASTER EQUIPPED PRIVATE HAULERS

IN ALL LEADING CITIES FROM COAST TO COAST

Free Brochure and Name of Nearest Private Hauler on Request
Dept. NE6 DEMPSTER BROTHERS Knoxville 17, Tenn.

For more details circle NED-936 F1 on enclosed inquiry slip

DESIGNED FOR MODERN PIPING!

THE ECON-O-MISER BALL VALVE

COMPARE THE ECON-O-MISER WITH ANY ON-OFF VALVE!

- Remove 4 bolts — the center section lifts out — unions are eliminated!
- ¼" through 6" size range
- Quarter-turn operation
- Smooth round Two Way Flow
- No metal to metal contact — wiping action assures longer life

WRITE FOR COMPLETE TECHNICAL INFORMATION!

WORCESTER VALVE CO., INC. / WORCESTER 10, MASS.

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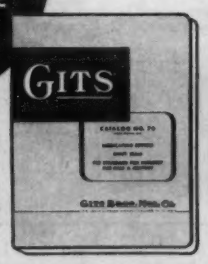
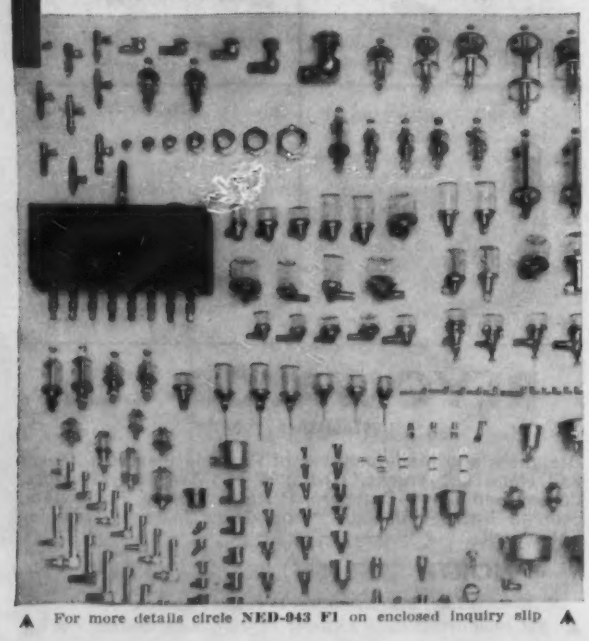
523 GITS OILERS AND GAUGES READY TO SHIP



Largest selection available anywhere. You save time and money, because the one you want is always right in stock. Send for complete Catalog.

GITS BROS. MFG. CO.
1833 S. Kilbourn Ave. Chicago 23, Ill.

Specialists in Lubricating Devices and Shaft Seals for Almost Half-A-Century



▲ For more details circle NED-943 F1 on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

Pinned Rolls

FREE Robert A. Main & Sons, Inc.—Examples of the many tube and solid types of pinned rolls, cylinders, shafts, wheels, sections, bars, plates, and conveyor belts made to specification are shown in 8-page Brochure B-22. Uses include perforating, picking, scratching, piercing, shredding, dimpling, grooving, and others.

▲ For more details circle NED-944 F1 on enclosed inquiry slip ▲

Product Handling Boxes

FREE Export Corp., Panel Controls Div.—Lightweight, durable and easy-to-handle product control boxes described in illustrated 4-page folder will support any solid or liquid weight up to 500 lb. They are noncontaminating, oil and chemical resistant, and are available with or without dividers, layer separators, label pads, and holders.

▲ For more details circle NED-945 F1 on enclosed inquiry slip ▲

Using & Abusing Wire Rope

FREE Macwhyte Wire Rope Co.—In addition to data on the selection of wire rope, 92-page pocket-size Booklet 6038, "How To Use and Abuse Wire Rope" describes and illustrates its various constructions. Examples of subjects covered are proper working loads, sheave diameters, correct spooling, kinking, inspection, lubrication, attaching sockets, and shock loads.

▲ For more details circle NED-946 F1 on enclosed inquiry slip ▲

Alternating Current Motors

FREE Reliance Electric & Engineering Co.—Product features of each Duty Master alternating current motor in ratings from 1 to 2000 hp are explained in illustrated Bulletin B-2515. Protected open, totally-enclosed, corrosionproof, weatherproof, explosionproof, cubic design, hermetic, lintproof, submersible, and other types are covered.

▲ For more details circle NED-947 F1 on enclosed inquiry slip ▲

Springs & Spring-Like Things

FREE Associated Spring Co.—Information needed to specify custom designed and standardized precision springs is found in 16-page illustrated manual. It summarizes basic data on helical and flat springs, special fasteners, wire forms, precision metal stampings, and assembled spring-like devices. Tables list sizes available from stock.

▲ For more details circle NED-948 F1 on enclosed inquiry slip ▲

Automated Welding Equipment

FREE Acro Welder Mfg. Co.—Sixty-eight special welding units with descriptive data are illustrated in 16-page catalog 261, "Welding Automation." Covered are Acromatic resistance welders, Acro-Arc arc welders, Acro standard resistance press welders, Acro-Magnetic magnetic force welders, and Acro standard resistance welders.

▲ For more details circle NED-949 F1 on enclosed inquiry slip ▲

PACKAGED PUMPING SYSTEMS PRODUCE AND MEASURE VACUUM TO 10^{-7} mm. HG.

Here's what you get with the new NRC Series 3300 line of portable pumping systems: unmatched effective pumping speeds over a wide pressure range . . . top performance and efficiency . . . dependable low ultimate pressure . . . adaptability for ultra-high vacuum . . . no contamination by condensable vapors . . . low first and operating costs . . . wide range of sizes, including 2, 4, 6 and 10 inch systems.

This NRC line of systems assures you an easy, low cost source of high vacuum pumping and measurement. All you need for operation is power, water and vacuum-tight container. Use the 3300's as portable pumping systems to move from job to job, or as a low cost building block for a high performance vacuum installation.

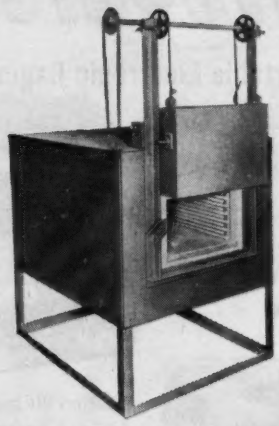
Write today for technical details on the Series 3300 line.

A Subsidiary of National Research Corp.
160 Charlemont Street, Dept. 29F
Newton 61, Massachusetts

NRC EQUIPMENT CORPORATION

▲ For more details circle NED-951 F1 on enclosed inquiry slip ▲

HARDENING · ANNEALING · DRAWING · PREHEATING FURNACES



Originally designed to meet U. S. Air Force specifications (ninety-four furnaces have been delivered to date), the Lucifer 5055 Series furnaces are used for hardening, annealing, drawing and preheating applications . . . 2,000° F. and 2,300° F. This series is available in five standard models built for heavy use. All standard models include . . . an automatic controller, thermocouple, lead wire and magnetic contactor, vertical lift door, cast hearth plate, low watt density metallic elements mounted in our exclusive one piece monolithic holders, welded heavy steel plate reinforced casing, highest quality insulation brick throughout.

For further information, a complete catalog or engineering advice . . . write, wire or call . . .

LUCIFER FURNACES, INC.
Neshaminy 15, Pennsylvania • Diamond 3-0411

▲ For more details circle NED-952 F1 on enclosed inquiry slip ▲

Need a Motoreducer with an unusual drive motor?

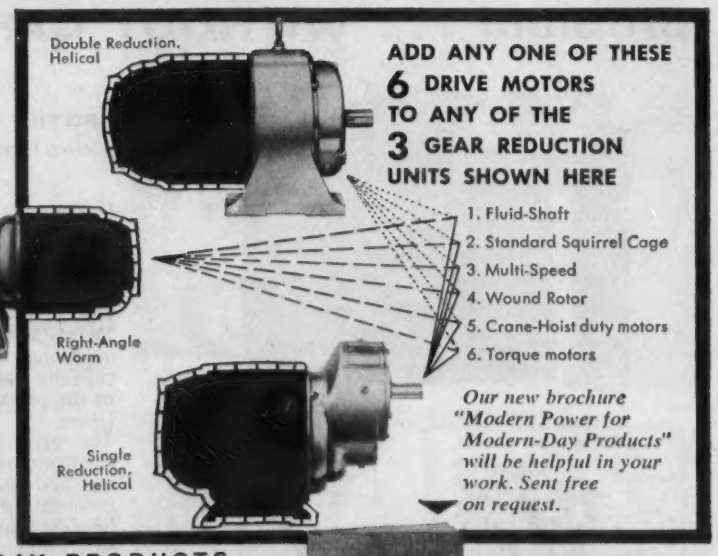
LET REULAND TAILOR A MOTOREDUCER PACKAGE TO YOUR EXACT NEEDS...

No longer must you "make something do"... no longer must you modify *your* machine to fit the *drive!* Hundreds of different speed and power variations can be developed from the three basic Reuland gear reduction units shown at right.

This is made possible through the use of Reuland's famous "Xpandable-Design" idea.

Whether you need a simple motor-and-reducer—or an amazing, automatic combination with a special motor, gear reducer, magnetic brake and fluid coupling—Reuland engineers can quickly solve your drive problem.

Costs are lowered. Development time is saved. Your drive is *right*. Why not see first-hand what a Reuland Motoreducer can do for you.



ADD ANY ONE OF THESE 6 DRIVE MOTORS TO ANY OF THE 3 GEAR REDUCTION UNITS SHOWN HERE

1. Fluid-Shaft
2. Standard Squirrel Cage
3. Multi-Speed
4. Wound Rotor
5. Crane-Hoist duty motors
6. Torque motors

Our new brochure "Modern Power for Modern-Day Products" will be helpful in your work. Sent free on request.

MODERN POWER FOR MODERN-DAY PRODUCTS . . . ALL IN LIGHTWEIGHT ALUMINUM FRAMES!

REULAND MOTORS

Reuland Electric Company—Distributors in all principal cities
Western Division: Alhambra, California • Eastern Division: Howell, Michigan

A DEMONSTRATION UNIT FOR YOUR EQUIPMENT?

So sure are we you'll like what you see, we're offering to engineer a demonstration unit for your equipment without the slightest obligation. Just write us.

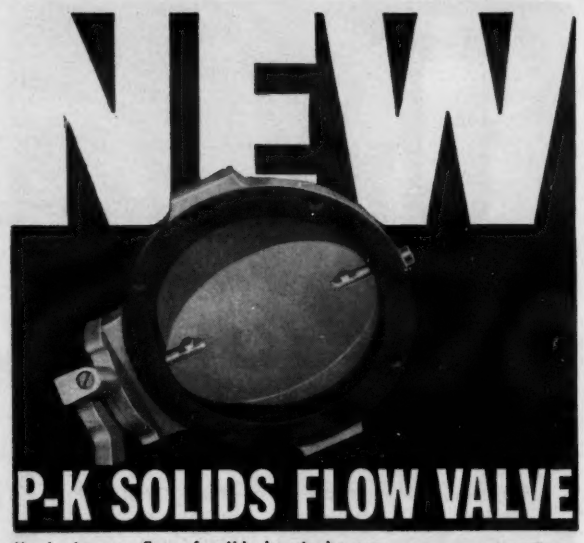
Refer to Sweet's 1961 Product Design File, Section 7a/RE

▲ For more details circle NED-950 F1 on enclosed inquiry slip ▲

New Steel Tubing DATA BOOKS

Just published. Complete up-to-date information on Republic ELECTRUNITE® Welded Steel Tubing including more than 400 new sizes, tolerances, physical properties, and other essential information on round, square, and rectangular tubing. For your free copy of the *Carbon Steel Tubing* booklet circle NED-953 on the enclosed inquiry slip. For *Stainless Tubing* circle NED-954 For combined booklet on *Carbon and Stainless* circle NED-955

REPUBLIC STEEL
STEEL AND TUBES DIVISION
233 East 131st St. • Cleveland 8, Ohio



P-K SOLIDS FLOW VALVE

Used wherever flow of solids has to be controlled. For hoppers, tote bins, blenders, etc. Neoprene lined, stainless steel disc and stems. Priced as low as $96.00.

FREE BULLETIN NO. 16-P
Contains information on sizes and accessories and all P-K Processing Equipment.

Patterson Kelley
Chemical and Process Equipment Division, East Stroudsburg, Pa.
▲ For more details circle NED-956 F1 on enclosed inquiry slip ▲

Hoffman Glaceram® Core Bits

Hoffman Bit cores through high density alumina in seconds.

Large matrix with heavy diamond concentrate assures long, low cost coring.

OUTPERFORMS • LASTS LONGER • COSTS LESS

Hoffman Glaceram Bits are highly efficient over the widest range of industrial applications in coring extremely hard materials. Their special design assures better than "three-to-one" bit life for drilling or finish grinding glass, ceramics, quartz, flint, porcelain, etc. . . . even where face widths are as low as .025". Hold original O.D. or I.D. accuracy for life of the bit. In 1/8" to 2 7/8" diameters.

Write for Literature and prices. Ask about Free materials tests.
Diamond Tool Experts Since 1902

HOFFMAN BROS. DRILLING CO.
106 Cedar Street • Punxsutawney, Penna.
▲ For more details circle NED-957 F1 on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

WHITE ROOF COATING reflects heat to cool interiors

Life of industrial building roofs is extended by use of White Top heat reflective roof coating. Its heat reflective qualities are reported to lower the temperature of building interiors by as much as 15° F in warm weather. A white butyl rubber alkyd compound, it is usable on built-up roofs, rolled roofing, asbestos and asphalt shingles, felt and tar roofs, cement and unglazed tile, and galvanized metal roofs. Coating impregnates the surface and is unaffected over a −70 to 140° F range. It also resists moisture, sunlight, freezing, acids, salts, and carbons. Application is by roller, brush, or spray gun at rate of 100 to 150 sq ft per gallon. • **Superior Paint & Varnish Corp.,** 3065 N. Rockwell St., Chicago 18, Ill.

▲ For more details circle NED-958 F1 on enclosed inquiry slip ▲

SPRAY TYPE DRY LUBRICANTS in air-drying and heat-curing types

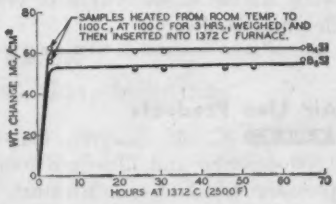
Poxylube 750 and 420 are dry-bonded film, solid lubricants, and they are offered in aerosol spray cans as well as in larger containers up to 50 gal. They withstand pressure up to 250,000 psi and temperatures from −100 to 500° F. They do not collect dust nor contaminate food and are usable on practically any bearing or wear surface. Poxylube 750 has an epoxy resin adhesive and must be heat cured, after which it is chemically insoluble. The can lubricates 5400 sq in. and sells for $4.25. Poxylube 420 has a lacquer base resin that air dries in 3 to 6 hr. The aerosol can lubricates up to 3000 sq in. and lists for $3.75. • **Poxylube, Inc.,** 541 S. Webster Ave., Indianapolis 19, Ind.

▲ For more details circle NED-959 F1 on enclosed inquiry slip ▲

HIGH-TEMPERATURE MATERIAL can be used at 1400° C in air

Boron silicide, a high-temperature material that lends itself to powder metallurgical fabrication techniques, can be used at 1400° C in air for extended periods. Available as a black, microcrystalline, free-flowing powder in three purity grades, material is applicable in nuclear reactors as a neutron control device, for shielding structures, and as a burnable poison to absorb excess neutrons in some reactors. Its excellent oxidation and thermal shock resistance suit it for general refractory uses. It can be hot pressed, slip cast, oxide-bonded, or self-bonded. When oxide-bonded, it is machinable with carbide tools when presintered at 1095° C in air. Grades AA, A, and B respectively contain 1, 5, and 15 per cent free silicon. • **Allis-Chalmers Mfg. Co.,** 918 S. 70th St., Milwaukee 1, Wis.

OXIDATION OF BORON SILICIDE IN STAGNANT AIR



▲ For more details circle NED-960 F1 on enclosed inquiry slip ▲

Sling Chains

FREE Campbell Chain Co.—Descriptions and tables of specifications for all types of sling chains made by this company are found in 20-page illustrated catalog S-261. Sections are devoted to Cam-Alloy, wrought iron, and High Test steel sling chains, Sentry sling chains, and bell type magnet assembly.

▲ For more details circle NED-961 F1 on enclosed inquiry slip ▲

SAVE ON

SAW SHARPENING

If it costs you $25.00 or more a month, let your monthly sharpening bill pay for a FOLEY SAW FILER.

What is your monthly saw sharpening bill? Are you paying $25.00 a month or more, or sharpening saws by hand, or probably using them when too dull? If so, a Foley Saw Filer will soon pay for itself in your plant. With the Model 200 Foley Automatic Saw Filer you can sharpen both "combination" and crosscut circular saws, band saws and hand saws. No experience needed to turn out precision sharpening with a Foley. Increase your sawing production, improve your work quality, prolong the life of your saws—and let your monthly sharpening bill pay for the Foley.

30-DAY TRIAL OFFER

You may try the new Model 200 Foley Saw Filer in your own shop for 30 days. Write for literature and details of 30-day trial offer.

FOLEY MFG. CO.
3323 N. E. 5th STREET
MINNEAPOLIS 18, MINN.

▲ For more details circle NED-962 F1 on enclosed inquiry slip ▲

Let "CADILLAC" Prove Itself to *YOU!*
Portable
Cadillac WINCH HOIST

Model 202WN
Pat. No. 2,738,954
Pat. No. 2,927,771
Other Pats. Pending

LIFTS—PULLS—LOWERS 1000 to 4000 pounds

Aluminum Alloy Castings Withstand Corrosion

Stainless Steel Shafts & Springs

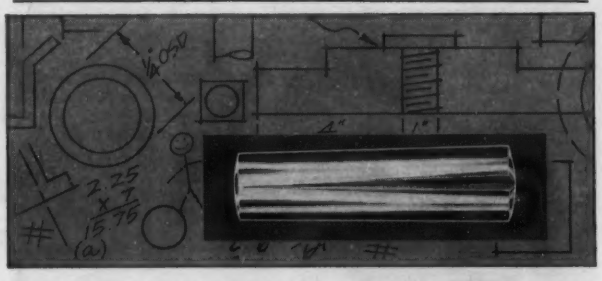
Preformed Aircraft Cable is engineered to bend before any mechanical part is subjected to an overstrain

Easy to Operate
Easy to Maintain
Lightweight—Only 7½ to 14 lb

$30.95 and up.

ALUMINUM PRODUCTS, Inc.
Est. 1943
699 S.W. 2nd Ave., Ft. Lauderdale, Fla.

▲ For more details circle NED-963 F1 on enclosed inquiry slip ▲

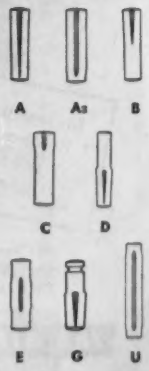


DON'T DISPOSE OF DOODLES if they pertain to fastening problems

Next time you're sketching out a problem, give Driv-Lok a crack at it. We can pin down quite a bit of helpful information from a doodle.

We'd like to know what the application is, dimensions, metals used, and any pertinent factors such as shock or vibration, corrosion, electrical properties . . . the things needed to let us give you a proper pin recommendation and a price.

Driv-Lok's wide variety of grooved pins and agile engineering ability have solved a multitude of fastening problems. We'd like a chance at yours.



8 STANDARD TYPES PLUS SPECIALS in a variety of metals. Send for your free catalog and samples, too.

DRIV-LOK SALES CORPORATION
717 Park Avenue, Sycamore 4, Illinois
▲ For more details circle NED-964 F1 on enclosed inquiry slip ▲

NEW ROTOR Airiter
saves time on all marking jobs

This new Rotor marker has been proven in scores of shops on parts and tools of all sizes...materials of all kinds. Users report it outperforms other air markers and other marking methods in ease and speed. Its fine control, with throttle located *on the tool*, adjusts its speed and depth of mark easily to suit every job. Short-stroke carbide stylus makes up to 12,000 blows per minute. Will not stall while writing.
Try it in your shop and see how it writes circles around other methods! Write for Bulletin AR-2. *The Rotor Tool Company, 26334 Lakeland Blvd., Cleveland 32, Ohio. Subsidiary of The Cooper-Bessemer Corporation.*

ROTOR TOOLS

▲ For more details circle NED-968 F1 on enclosed inquiry slip ▲

LOCATE HOLES to .001"

up to ten times faster than on a surface plate

No reference standards are required with the Sheffield-Ferranti machine for measuring and laying out location of holes and surfaces to X & Y coordinates. Part tolerances of .001 and larger are indicated to the nearest .0005 with direct visual readout in lighted ¾" numbers. Instant zero reset—working range 15" x 24". Save time by rushing request for Bulletin FI-22.

The SHEFFIELD Corporation Dayton 1, Ohio
a subsidiary of The Bendix Corporation

▲ For more details circle NED-969 F1 on enclosed inquiry slip ▲

Compact, low-cost
SINCLAIR-COLLINS PILOT VALVE

Diaphragm-operated S-C Model C-786 valves amplify instrument and cycle timer signals to pilot large valves and similar units. Provide near-instantaneous response . . . precise control . . . full ¼ in. pipe flow area . . . compact, only 5⅜ in. high. S-C quality, yet attractively priced. For air, steam, hot or cold water, or inert gas service, 2- and 3-way, 125 psi, tapped ¼ in. NPT.

for instrument or timer-actuated precision piloting

For more information, write for Bulletin 59-SC. Address The Sinclair-Collins Valve Company, Akron 11, Ohio, Dept. NED-661.

The SINCLAIR-COLLINS VALVE Co.
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)
AKRON 11, OHIO
8190

▲ For more details circle NED-970 F1 on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

Power Tools & Accessories

FREE Skil Corp.—Over 100 power tools for industry, maintenance, and other applications are featured in the 68-page 1961 catalog with 200 pictures. Information on product features and applications, and complete specifications are included. Three new Skilsaw worm-drive power saws, an improved multipurpose reciprocating saw, three new drills, and a heavy duty jig saw are additions.

▲ For more details circle NED-971 F1 on enclosed inquiry slip ▲

Industrial Rubber Products

Divided into sections on belting, hose molded products, and rubber specialties, 60-page catalog gives extensive data on hundreds of industrial rubber products. Services for which mechanical rubber products are intended, particularly hose, are listed for easy reference. Each item is listed under as many subjects and uses as possible. Available only by writing on letterhead to **Cincinnati Rubber Mfg. Co.**, 4900 Franklin Ave., Cincinnati 12, Ohio.

▲ For more details circle NED-972 F1 on enclosed inquiry slip ▲

Tool Steel Trends

FREE American Iron & Steel Institute—"Tool Steel Trends" is title of small brochure to be published every three or four months containing basic information on the use, application, and fabrication of tool steel. First issue briefly covers presses to 10 tons, an auto hardware application for tool steel, and other items. It provides a check list of written articles on tool steel.

▲ For more details circle NED-973 F1 on enclosed inquiry slip ▲

Soldering Iron

FREE Eldon Industries, Inc., Ungar Electric Tools, Electronic Div.—The new Imperial soldering iron described in 8-page Catalog 1-100-61 features interchangeable handles, cord sets, heat cartridges, and 42 Mini-Tip thread-on soldering tips, plus other accessories. Applications and net prices are covered.

▲ For more details circle NED-974 F1 on enclosed inquiry slip ▲

Threaded Inserts & Studs

FREE Newton Insert Co.—Revised 28-page Catalog D provides technical data on 20 different series of Keensert threaded inserts and studs. Construction details deal with light weight, heavy duty, and extra heavy duty inserts and studs; floating miniature, solid, and hydraulic inserts with and without internal thread lock; and shear load studs. Installation and removal are covered.

▲ For more details circle NED-975 F1 on enclosed inquiry slip ▲

Flow Meter Handbook

Latest, revised 170-page third edition of the "Flow Meter Engineering Handbook" has basic flow calculation rearranged for easy reference. It provides schematics, graphs, charts, and tables and contains separate chapters on steam, liquid, and gas flow calculations. Superheated steam factor tables now include gage pressures up to 3000 psi in steam flow calculations. Price is $7.50. Available only by writing **Minneapolis-Honeywell Regulator Co.**, Brown Instruments Div., Mail Station 0280, Wayne & Windrim Avenues, Philadelphia 44, Pa.

▲ For more details circle NED-976 F1 on enclosed inquiry slip ▲

Air Line Products

FREE C. A. Norgren Co.—64 pages of Catalog 1000 describe and illustrate compressed air line filters, pressure regulators, lubricators, valves, and other air line products. Engineering information included are compressed air flow chart, moisture content of saturated compressed air, and dimensional data.

▲ For more details circle NED-977 F1 on enclosed inquiry slip ▲

Shank Milling, Drilling & Boring Accessories

Ogesto and Beaver Quick-Change lines of shank milling, drilling, and boring accessories are completely covered in tabbed loose-leaf general catalog. It provides dimensional drawings on these as well as Ogesto adjustable Quick-Change tools for tape controlled or conventional machines and on Calibore boring units and inserts for semifinished and finish boring. Over 450 boring bars, boring heads, and boring bar blanks in various shanks are listed along with arbors, spacing, collars, bearings, and nuts. Available only by writing on letterhead to **Beaver Tool & Engineering Corp.**, 500 W. County Rd., Gaylord, Mich.

▲ For more details circle NED-978 F1 on enclosed inquiry slip ▲

NEW PRECISION
Heat diffusion provides greater versatility from high air capacity
WHIRL BLAST ELECTRIC FURNACE

Special swinging plug type door can be positioned to avoid operator contact with hot side when open.

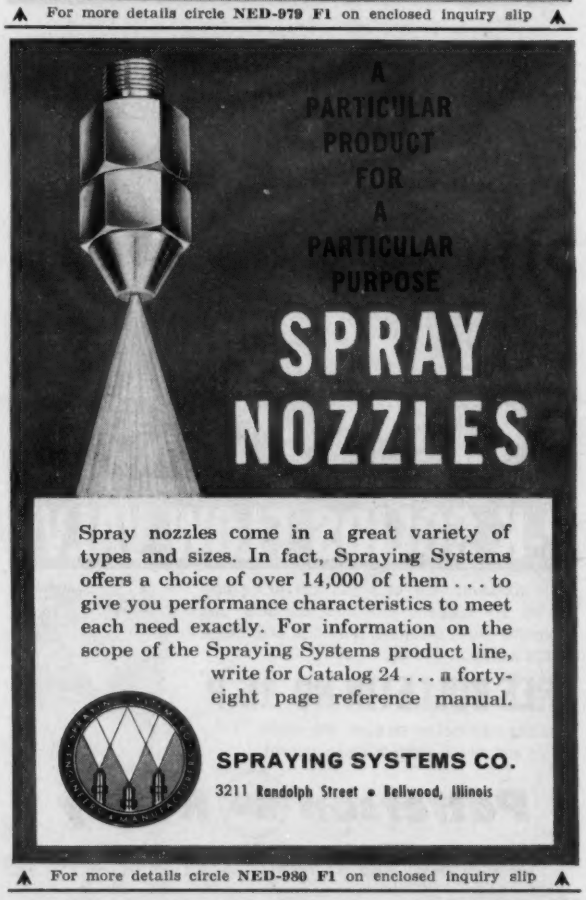
1350°F. MAXIMUM
Multiple purpose furnaces for heat treating aluminum, magnesium, wire annealing, brass forging, glass annealing Etc. Designed optionally for use with protective atmospheres. Atmospheres can be introduced into furnace proper or retort. Write for Bulletin 2064KJ.

DESPATCH OVEN CO.

Laboratory ovens · Burn-off ovens · Sterilizers · Drawer ovens · Pot-type furnaces · Box furnaces · Walk-in batch ovens

DESPATCH OVEN CO. 619 S.E. 8th St., Minneapolis 14, Minn.

▲ For more details circle NED-979 F1 on enclosed inquiry slip ▲



▲ For more details circle NED-980 F1 on enclosed inquiry slip ▲

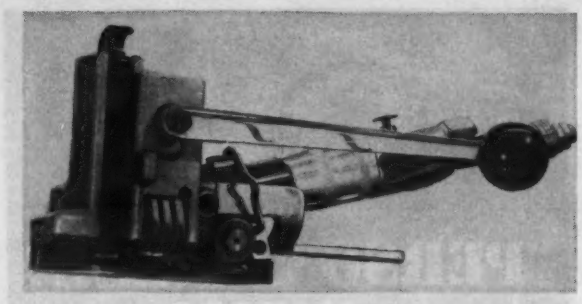
dependable Logan 14" LATHES

You can depend on Logan lathes. For low operating costs—variable speed drive (40-1400 rpm) adjusts while work is turning **without** shifting belts! For long life—warp-free bed withstands heaviest bending and torsional stresses. And for flexibility—9" swing over saddle, 14⅝" swing over bed, and 1 1/16" collet capacity can handle many operations. Write for full information.

Model 6510
$1,775.00
F.O.B. Factory

Logan
LOGAN ENGINEERING CO., DEPT. Q-661
4901 W. Lawrence Ave., Chicago 30, Ill.

▲ For more details circle NED-981 F1 on enclosed inquiry slip ▲



New Flat Strap Pneumatic Stretcher Tensions, Seals and Cuts Strap in Less Than a Second

This tool will tension, seal and cut properly applied flat strap in less than a second. Fast, easy strap loading. Seals feed automatically. Operating handle completes seal and cuts strap. Tool weighs only 12½ lbs. Built-in suspension brackets for fast, easy handling. Demand to see this tool. *Full details.* Circle the reader service card, or write:

A.J. GERRARD & COMPANY / STRAPPING MATERIALS

410 East Touhy Avenue • DES PLAINES, ILLINOIS

▲ For more details circle NED-982 F1 on enclosed inquiry slip ▲

JOMAC GLOVES GIVE CUT PROTECTION THAT EVEN LEATHER CAN'T

The remarkable cut resistance of Jomac's loop-pile fabric glove is a *plus* that even expensive leather gloves do not provide. Moreover, Jomac gloves offer a better grip on oily surfaces and can be reconditioned time after time.

For maximum hand protection, it's North PVC Gloves. They offer better fit, greater dexterity, more comfort and superior safety in handling chemicals, oils and greases.

To keep outdoor workers dry, comfortable and safe in foul weather, insist on North PVC Wet-Weather Clothing . . . resistant to most oils, greases and chemicals, tough, flexible, nonaging and waterproof.

WRITE TODAY FOR A FOLDER DESCRIBING THESE PROTECTIVE JOMAC PRODUCTS

JOMAC

Jomac Inc., Dept. G
Philadelphia 38, Pa.

In Canada: James North Canada Company Ltd., Simcoe, Ont.

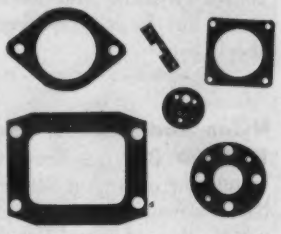
"Jomac Sells Quality . . . and Quality Sells Jomac!"

▲ For more details circle NED-983 F1 on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

DRY ADHESIVE FILM speeds production laminating

Many production laminating problems can be solved with Auburn 18, a 2-mil industrial thermosetting dry adhesive film on a paper interliner. Film allows cutting or preforming to exact size and shape required for accurate mating of joined pieces. It assures a uniform adhesive layer at the glue line, and the bond, after cure, is heat resistant and will withstand exposure to water solvents and hydrocarbons. Adhesive is widely used in electrical and metalworking industries. • **Auburn Mfg. Co.**, Stack Street, Middletown, Conn.



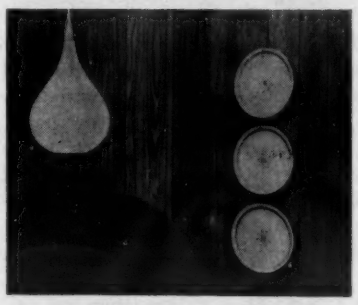
▲ For more details circle NED-984 F1 on enclosed inquiry slip ▲

FLOOR COATING PRIMER can be used on damp concrete

Firm bonding of floor coatings to concrete believed to be dry, but actually containing some moisture, is possible with Penntrowel Damp Surface Primer which also eliminates the need for long drying time. It is applied with a stiff brush after normal cleaning of the surface. Primer is a two-component, semiviscous, amber-colored liquid with a high bonding strength. It is compatible with other Penntrowel resin products, and is resistant to acids, alkalis, oils, and solvents, beside affording thermal shock resistance. One gallon covers 100 to 150 sq ft, depending upon surface roughness. • **Pennsalt Chemicals Corp.**, Corrosion Engineering Products Dept., Natrona, Pa.

▲ For more details circle NED-985 F1 on enclosed inquiry slip ▲

COATED WALL PANELING has woodgrain appearance



Scratch and dent resistant Plank melamine coated wall paneling will not crack, craze, or splinter. It has random grooving and the appearance of woodgrain laminates, and requires no refinishing. Paneling creates the look of real wood, yet will not warp, fade, or darken, and cleans with a damp cloth. Paneling is made in ⅛ and ¼-in. thicknesses in 16-in. width and 8-ft height. The ¼-in. thickness is installed over existing walls or furring strips and open studding and has tongue and groove joints to prevent nails from showing. Aluminized backing and a butt edge on the ⅛-in. type allows easy spot cementing to existing walls. Each thickness is available in three cherry woodgrains; the ¼-in., in four decorator colors as well. • **Barclay Mfg. Co.**, Dept. P, 328 Barclay Bldg., New York 51, N. Y.

▲ For more details circle NED-986 F1 on enclosed inquiry slip ▲

SLOTTED ANGLE RACK makes shelving, jigs, buildings

Inexpensive to install without special tools or skilled labor, Angle-Strut slotted angle rack is available in six sizes that are interchangeable. A wide variety of

load requirements is met by the material ranging from 1½ x 1½ in. x 14-gage to 3 x 1⅞ x 12-gage. Lengths are 10 and 12 ft. Uses include pallet racks, heavy duty shelving, carts, work benches, jigs, and building structures (see photo). Available accessories include shelves, cutters, plastic feet, and casters. • **Tube-Strut Corp.**, 4560 Sperry St., Los Angeles 39, Calif.

▲ For more details circle NED-987 F1 on enclosed inquiry slip ▲

Waste motion costs time and money . . . speed up production traffic with

R-W ELECTRIC OPERATORS

FOR INDUSTRIAL DOORS AND GATES

R-W offers a complete line of heavy-duty, top-quality Electric Operators designed to meet the rugged demands of industrial use. R-W Electric Operators will help speed up production traffic, smooth the traffic flow, and eliminate heat loss in winter and conditioned air loss in summer. R-W Electric Operators automatically open plant doors as traffic approaches and then close the doors safely and smoothly . . . eliminates door slamming and rough handling. Whether it swings, slides, raises or folds, R-W can open it automatically.

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NO OTHER TOOL MOVES METAL FASTER, CHEAPER

Arcair process for metal removal

You won't believe it until you see it! Arcair Torch cuts, gouges, grooves, bevels or flushes off more metal . . . any metal . . . in less time for less money. Gives you cleaner, better jobs, yet is inexpensive to install and operate, easy to use. Arcair works with any standard arc welding machine on ordinary shop air. Your men learn to use it in 15 minutes.

Ask for a demonstration soon or write for complete information.

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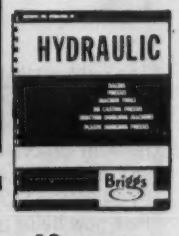
GRATIS . . . a 12 page file size HYDRAULIC CIRCUIT and FLUID MANUAL for almost every type and size hydraulic installation



Here is a big 8½" x 11", file size, 12 page fully illustrated manual. It's brimful of technical data and drawings that every designer and engineer will want to read or keep for ready reference. Write for your copy. No obligation.

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HYDRAULIC FLUID FILTERS

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YES! At no cost or obligation, send me your Hydraulic Manual.

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How to select
WORM GEAR Drives
FREE TO DESIGN ENGINEERS

NEW Bulletin 218

Complete up-to-date information on Cone-Drive double-enveloping worm gear drives. Provides all specification data plus "how to select and order".

CONE-DRIVE GEARS
DIVISION MICHIGAN TOOL COMPANY
7171 E. McNichols Rd. • Detroit 12, Michigan

For more details circle NED-991 F1 on enclosed inquiry slip

NEW answers to corrosion problems

SEAMLESS
EXTRUDED

The right answers to a wide variety of corrosion and high temperature problems in processing equipment and piping systems are provided by SEAMLESS Stainless Tubing and Pipe now being made by Carpenter. Hot extrusion and cold finishing give these new products extremely uniform structure, closely balanced analyses, close accuracy of O.D. and I.D. dimensions, excellent physical properties and super-smooth surfaces. Carpenter makes SEAMLESS Stainless Tubing and Pipe in a full range of standard analyses, including Carpenter Stainless No. 20Cb for unusual service conditions. Tubing sizes range from ¼" to 6⅝" O.D. with wall thicknesses of .004" to .864". Pipe sizes are ⅛" to 6" in Schedules 5, 10, 40, 80, 120, 160 and Double Extra Heavy. Popular types and sizes of tubing and pipe—both Seamless and Welded—are available from large stocks in principal cities. Discuss your needs with the nearest Carpenter Representative or Distributor. Send for new Selecting and Buying Guide, Bulletin 128.

THE CARPENTER STEEL COMPANY
Alloy Tube Division, Union, New Jersey

For more details circle NED-992 F1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Safety Kit for Lift Truck Operations

FREE Towmotor Corp.—Pocket size Lift Truck Operator's Guide, four humorous safety cartoons for plant bulletin boards, and four eye-catching posters comprise the Towmotor Plant Safety Kit. Posters have messages of caution on narrow aisles, blind corners, dangerous crossing, and low headroom areas. Operator's guide has basic operating data and a 30-point safety check list.

For more details circle NED-993 F1 on enclosed inquiry slip

Nylon Rods, Tubes, Bars, Tubing & Plate

FREE Bunting Brass & Bronze Co.—Technical information on nylon solid rods, extruded tubes, tubular bars, pressure tubing, and plate added to this company's line of metallic products is found in a 16-page handbook. Machining procedures covered include turning, sawing, drilling, grinding, polishing, threading, and punching.

For more details circle NED-994 F1 on enclosed inquiry slip

V-Belt Drive Engineering

FREE Fort Worth Steel & Machinery Co.—64 pages of illustrated Engineering & Specification Guide 50-C present instructions and engineering data for selection of both stock and nonstock V-belt drives. Standardized quick-demountable sheaves of various sizes and types with up to 20 grooves and 70-in. diameter, plus V-belts of various constructions are detailed.

For more details circle NED-995 F1 on enclosed inquiry slip

Engine Snubbers

FREE Burgess-Manning Co.—Each unit in a new series of engine blower, compressor, and vent snubbers is designed for a particular level of noise suppression. Three bulletins describe the BMA-First Line for critical areas where absolute silence is essential, BMB-Standard for light industry where people in surrounding areas must be considered, and BMC-Compact which affords maximum silencing in heavy industry.

For more details circle NED-996 F1 on enclosed inquiry slip

Variable Speed Drives

A 112-page catalog features lube-free integral and fractional horsepower variable speed drives, with cutaway drawings and photos to detail working parts. Modifications shown include single, double, and triple reductions, as well as various horizontal and single and double worm assemblies. Prices cover 2:1 to 6:1 variations. Available only by writing on company letterhead to **Sterling Electric Motors, Inc.**, 5401 Telegraph Rd., Los Angeles 22, Calif.

For more details circle NED-997 F1 on enclosed inquiry slip

Tachometer Generators & Indicators

FREE General Electric Co.—Specifications and other data relative to G-E alternating and direct current tachometer generators and indicators are furnished in 12-page Bulletin GEZ-3251. Accuracies of these speed-measuring systems range down to 1 per cent of full scale at ambients of 25° C.

For more details circle NED-998 F1 on enclosed inquiry slip

Design of Rolled Worm Threads

FREE Landis Machine Co.—"Design ABC's of Rolled Worm Threads" is title of 12-page booklet which illustrates and describes the general rules of design and practice for rolled worm threads. It covers depth-to-diameter ratio, effect of number of workpiece starts upon straightness, rotative effects of thread depth, blank design and preparation, and other considerations.

For more details circle NED-999 F1 on enclosed inquiry slip

Mobile Service Equipment

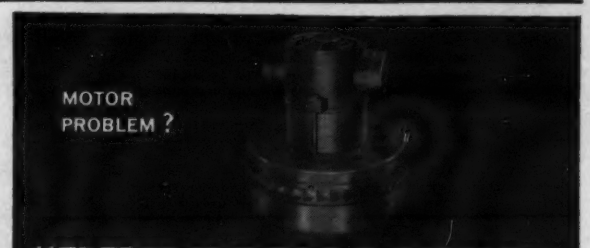
FREE Bucks County Enterprises, Inc.—Each product page in the Bucksco mobile service equipment catalog faces a page with complete specifications and a dimensional sketch. This facilitates specifying and ordering of delivery storage cabinets, open racks, dish dollies and carts, waste container, coffee and utility carts, and boxes.

For more details circle NED-1000 F1 on enclosed inquiry slip

Aluminum Foil Nameplates

FREE H. G. Dietz Products Co.—Fourteen samples of colors and finishes used in aluminum foil nameplates are mounted on this nameplate color chart. Colors are impervious to oxidation, abrasion, corrosion, oil, organic solvents, and dilute acids. They will not peel, chip, or crack.

For more details circle NED-1001 F1 on enclosed inquiry slip



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FOR YOUR NEW PRODUCT
Planned, Designed and Manufactured by Lamb Electric

Years of experience in creating fractional horsepower motors for exacting product requirements means you get the RIGHT MOTOR, mass-produced at the most favorable cost.

FREE! Write today for descriptive folder, and information on how you can set up a "Motor Conference".

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A Division of American Machine and Metals, Inc.
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Lamb Electric
SPECIAL APPLICATION FRACTIONAL HORSEPOWER MOTORS

For more details circle NED-1002 F1 on enclosed inquiry slip

IF... you use up to 4000 boxes daily

... want a stronger, better looking box
... would like to save up to 90% in storage, with additional savings in handling and transportation
... then you need BOXMASTER®! Up to $10. and $20. per thousand savings possible.

Send for cost-saving facts, now. United BOXMASTER® Carton Forming Machine is producing these savings for hardware, instrument, apparel and many other industries.

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BRUSHES LARGE
... or Brushes Small

JENKINS' supplies them all

Jenkins' METLKOR brushes range in length from less than 1 inch to more than 20 feet . . . and every one is built for peak performance, perfect balance, highest quality, longest life, lowest cost and quick delivery. If you have a problem where brush tools may be used to advantage, consult Jenkins'. Our Brush Engineers will be pleased to consult, run laboratory tests, and otherwise help to develop a brushing system. No cost or obligation.

Specify Jenkins' METLKOR the original . . . the best Metal Core brush

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METLKOR®
CYLINDER BRUSHES and LIFEWOOD® WOOD BACKED BRUSHES

For more details circle NED-1004 F1 on enclosed inquiry slip

for quick attachment and removal . . .

through wide range of thickness

SOUTHCO

SCREW FASTENERS

Ample tolerance, inherent in Southco Screw Fastener design, permits use of one grip size for many jobs, simplifies stock requirements. "Floating" screw assembly eliminates alignment problems. Rugged, strong, no springs . . . easy to install.

Write today for free copy of 52 page Fastener Handbook. Southco Division, South Chester Corporation, 243 Industrial Highway, Lester, Pa.

SOUTHCO FASTENERS LION

For more details circle NED-1005 F1 on enclosed inquiry slip

H-30 PAYLOADER®

for tough bulk handling

The Model H-30 was introduced a year ago and has been so successful that many owners have already purchased additional units. Although it is the smallest 4-wheel-drive PAYLOADER, it has an operating capacity of 3,000 lbs. and the latest improvements and features found in the larger models — is way ahead of all other loaders near its size.

Traction and Digging Power: 77½ h.p. gasoline or 71½ h.p. diesel engine and 4-wheel drive on big 12:00 x 24 tires, plus torque-proportioning differentials, give it outstanding digging and *go* power indoors or out.

Fast, Safe and Easy Operation: Full power-shift transmission plus torque converter give 3 speed ranges in each direction up to 25 m.p.h.; instant on-the-go fingertip shifting (no foot clutch); power-steer; safety boom arms (all moving parts ahead and clear of the operator); sealed 4-wheel brakes (hydraulic) give positive braking and low maintenance; "operator's choice" dual brake pedals permit braking with and without transmission engaged.

Fullest Operator Visibility: Simplified boom design and slope-down front end let operator see the bucket action at all times and give him excellent all-around visibility.

Easy Servicing, Low Maintenance: Battery, engine and other points easily accessible; sealed, pressurized hydraulic system plus double filtering.

The Tougher Your Bulk-handling requirements, the more you need PAYLOADER dependability. A Hough Distributor is ready to give you complete data on the H-30 or any other of the 20 models — from 2,000 to 12,000 lbs. capacity. He also has the finest service in the rubber-tired loader industry. 6-B-6

HOUGH®

THE FRANK G. HOUGH CO
LIBERTYVILLE, ILLINOIS
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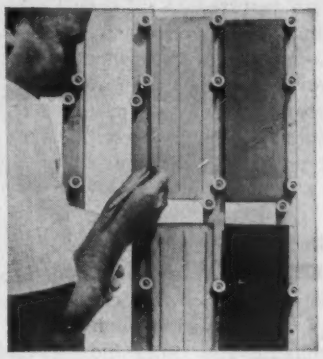
NEW MATERIALS AND PROCESSES

ZINC-COATED STEEL SHEET
paintability, weldability improved



Zincgrip A, Paintgrip is a spangle-free, hot-dipped zinc-coated steel that combines the corrosion resistance of a 1.25-oz class zinc coating with maximum paintability. Spot welding properties are also improved. Paintability is achieved with a special chemical coating which can be eliminated for applications not requiring this property. Untreated Zincgrip A is also spangle-free. Material can be drawn, formed, and lock seamed to the limit of the base metal without flaking or peeling of coating. It is offered in coils and cut lengths in 16 through 24 gages and widths up to 36 or 48 in. Sheet samples are shown after a 3-yr outdoor corrosion test. Paintgrip panels on top show no rust in the scribe marks. ● **Armco Steel Corp.**, Middletown, Ohio.

For more details circle NED-1007 F1 on enclosed inquiry slip

PACKAGING MATERIAL
high-load type for heavy cushioning

X-Firm Super Hairflex heavy-load cushioning material for packaging is made by bonding millions of permanently-set curled animal hairs together with a latex binder. The curled hairs, thus joined, absorb shock like springs and actually "float" the packaged item. Material has fast, 93-95 per cent compression recovery, even after repeated use. It is also light in weight, durable, reusable, and moisture, flame, and fungus resistant. Available in sheet and die cut forms, material can be fabricated to cushion products of various size, shape, and weight. ● **Armour Alliance Industries**, Cushioning Products Div., 16123 Armour St. N.E., Alliance, Ohio.

For more details circle NED-1008 F1 on enclosed inquiry slip

STRIPED WARNING PANELS
self-sticking, black and yellow

Visual signal of safety hazards or marking the location of protective or safety equipment are uses for these diagonally striped, self-sticking panels. They are made of durable 0.005-in. thick vinyl plastic with sealed-in black and yellow stripes. Easily applied by peeling off the protective Blue Streak liner, the panels adhere to any clean, dry surface, indoors or outdoors. Uses include location markers for fire extinguishers and respirators, danger signals on loading platforms and truck tail gates, dangerous corners in factories, and markings for fork lift trucks. Available sizes are 5½ x 17, 11 x 17, and 17 x 17 in. ● **W. H. Brady Co.**, Dept. 143R, 727 W. Glendale Ave., Milwaukee 9, Wis.

For more details circle NED-1009 F1 on enclosed inquiry slip

Lubricated Plug & Venturi Valves

FREE Rockwell Mfg. Co., Nordstrom Valve Div.— Section 1 of 20-page illustrated valve Bulletin V-602 covers the fundamental method of determining pressure drops for all types and sizes of Rockwell-Nordstrom lubricated plug valves, including the venturi types. Section 2 affords a rapid method of estimating pressure drop through venturi type valves. Corrections for different gas and liquid flow conditions can be computed from examples given.

For more details circle NED-1010 F1 on enclosed inquiry slip

USG®

THE MARK OF QUALITY IN FRACTIONAL H.P. BRUSHES • FOR DEPENDABLE SMALL MOTOR PERFORMANCE

B-298-1

THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION • SAGINAW 10, MICHIGAN

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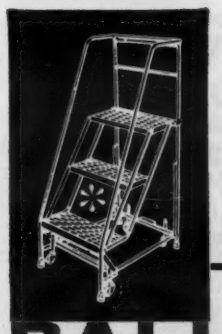

LOW C.G. —more safety

BALLYMORE Safety-Step LADDERS

Safe, wide-base Ballymore pyramid design provides a new low center of gravity, gives a new stability at heights up to 15 ft. Sturdily welded, corrosion-resistant steel or aluminum Safety-Step ladders can be moved easily on casters to any area, grip floor firmly when stepped on. 4 types, 47 models.

WITH OR WITHOUT HANDRAILS

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Call your LOCAL DISTRIBUTOR

BALLYMORE
EQUIPMENT FOR WORKING *Safely* ABOVE FLOOR LEVEL

For more details circle NED-1012 F1 on enclosed inquiry slip

Dependable Accuracy . . .
with TRERICE
DIAL THERMOMETERS

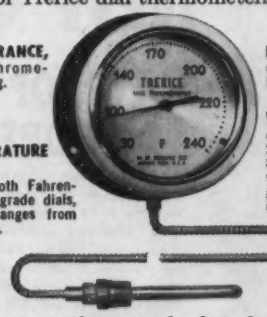
If you are after precise, dependable temperature indication, take a close look at these high-quality features of Trerice dial thermometers!

NEAT APPEARANCE, distinctive chrome-plated dial ring.

EASY TO READ, modern aluminum dial, large figures.

WIDE TEMPERATURE RANGES, available in both Fahrenheit and Centigrade dials, temperature ranges from -100° to 1000° F.

WIDE VARIETY, dial available in 2", 2½", 3½", 4½", 6", 8½" and 12" diameters with mercury, vapor, gas, solid liquid or bimetal actuation.



All the many other standard and special option features of Trerice dial thermometers are contained in Bulletin No. 500-M. Write for your copy.

Send Bulletin 500-M.

Name .....

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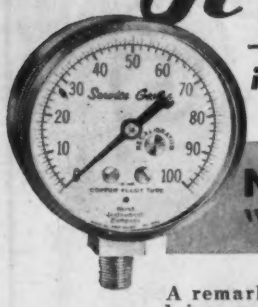
H.O. TRERICE CO. 1420-C W. Lafayette Blvd. Detroit 16, Michigan

For more details circle NED-1013 F1 on enclosed inquiry slip

It fits in



—to a wide range of in-plant and original equipment needs

New MARSH "Service Gauge"

A remarkable series of 2½" gauges brings you quality, accuracy and stamina —along with REAL economy!

Ranges: 15-30-60-100-160-200-300-600-1000 lbs. and 30" vacuum ¼" bottom connection.

All have strong 2½" bonderized case and brass screwed ring with bevelled glass. All have new Marsh "Read-easy" dial. All are *standard* with Marsh "Recalibrator." Every gauge is guaranteed accurate within 1% of dial reading.

Two types cover wide range of needs: Type 11 has silver-brazed copper alloy bourdon tube and bronze-bushed movement. Type 11S has 316 stainless steel bourdon tube with 303 stainless tip and socket; stainless steel and monel movement.

Ask For New Bulletin

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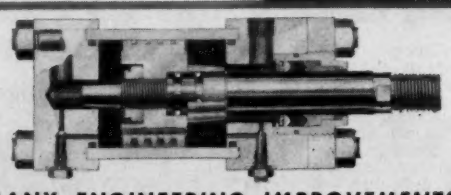
Division of Colorado Oil and Gas Corporation
Marsh Instrument & Valve Co., (Canada) Ltd., 8407 103rd St., Edmonton, Alberta, Canada • Houston Branch Plant, 1121 Rothwell St., Sect. 15, Houston, Texas • Eastern Seaboard Warehouse: Marsh Instrument Company, 1209 Anderson Ave., Fort Lee, N.J.
GAUGES • THERMOMETERS • VALVES

▲ For more details circle NED-1014 F1 on enclosed inquiry slip ▲

EXCLUSIVE WITH CARTER

Rod Scraper Plus Rod Wiper in Cartridge Rod Bearing! 100% J.I.C. INTERCHANGEABLE CYLINDERS

SQUARELINE 2000-3000 PSI HYDRAULIC



MANY ENGINEERING IMPROVEMENTS! LOWER PRICES!

- 1½ to 12" Bore Sizes
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- True Quick-Change Cartridge
- Self-aligning Truly Concentric Cushions
- Extra Heavy Construction
- Precision Engineered

• ASK FOR SQUARELINE BULLETIN 3000 or complete bound file. Air and hydraulic cylinders, Rotaries, clamp cylinders, air valves, and the new SQUARELINE. Complete details and prices. SEND TODAY.

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REPLACES MANILA!

NEW Berkley POLYPROPYLENE ROPE

OVER 25-TON STRENGTH TEST WITH 2" SIZE

Berkley's Polypropylene Rope with new multi-twist, a new process that assures even tension on all strands and holds the twist—will fit your rope needs better! Berkley's Polypropylene Rope is stronger, has rope surface for easier tying and handling, floats and is rot-resistant —made to last!

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Please rush me samples, costs and fact sheets on Polypropylene
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CITY ..... STATE .....
☐ Check here if you want a Berkley representative to call on you.
How much footage of rope ____ do you purchase a year?

Berkley & Co.
SPIRIT LAKE, IOWA

▲ For more details circle NED-1016 F1 on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

Cabinet Racks & Console Assemblies

FREE Par-Metal Products Corp.—Innovations designed to assist engineers plan their electronic housings are featured in 32-page Catalog 61 on universal cabinet racks and modular console assemblies. An example is the component group check list which breaks down all basic units needed to make single, double, or triple console assemblies. Racks are furnished with solid side walls or with detachable side panels. Both types can be used in rows or gangs.

▲ For more details circle NED-1017 F1 on enclosed inquiry slip ▲

Roll Doctoring Blades

FREE John W. Bolton & Sons, Inc.—Bulletin DB-61 introduces this company as a new source of supply for doctoring blades which are used to keep papermaking and other industry rolls mirror-clean without scoring. Blades are available in all sizes and types in tempered carbon, cold rolled, stainless, and K-Monel steels; phosphor bronze; laminated plastic; and in special alloys.

▲ For more details circle NED-1018 F1 on enclosed inquiry slip ▲

Wire De-Reelers

FREE Associated American Winding Machinery, Inc.—Wire de-reelers designed for any winding condition and to fit every wire gage are presented in 6-page folder. Line includes Amacoil payoffs, tensioners, take-offs, and feeders for both rolling reels and over-the-end (stationary) reels. Features and recommended applications for each de-reeler are given.

▲ For more details circle NED-1019 F1 on enclosed inquiry slip ▲

Adjustable Wall-Thickness Bushings

FREE Adjustable Bushing Co.—Typical applications for Adjusto-Fit adjustable wall-thickness bushings are described in pocket-size 32-page Pamphlet 60A. Drawings show how superior cylindrical fits are obtained in bolting structural joints, clevis and hinge pins, rod end bearing pins, bearing, and seal applications.

▲ For more details circle NED-1020 F1 on enclosed inquiry slip ▲

Plasma Spray Coating

FREE Western Gear Corp., Systems Management Div.—Advances in plasma spray coating for space materials and critical defense parts are subject of 8-page Bulletin 6114. Outlined are capabilities for coating re-entry bodies, developing thermal-erosion barrier coatings for rocket engines, coatings for nuclear applications, self-supporting or free-standing shapes, as well as various corrosion, wear-resistant, and dielectric coatings.

▲ For more details circle NED-1021 F1 on enclosed inquiry slip ▲

Dynamic Balancing Machines

FREE Stewart-Warner Corp.—Comprehensive 16-page Catalog 24-1 reviews features and uses of all models and types of S-W electronic industrial balancers. Covered are cradle-type balances with weight range from 8 oz to 5000 lb and diametral range from ½ to 68 in., as well as a portable balancer, a single-plane balancer, and a vibration monitor.

▲ For more details circle NED-1022 F1 on enclosed inquiry slip ▲

Electroluminescence

FREE Controls Co. of America, Astromatic Div.—All-plastic electroluminescence panels detailed in 8-page brochure can be made in sizes up to 100 sq in. Developed primarily for instrument panel board use, panels are offered in several colors for soft, glare-free lighting.

▲ For more details circle NED-1023 F1 on enclosed inquiry slip ▲

Overhead Traveling Crane

FREE Abell-Howe Co.—Complete information is provided in 12-page Bulletin 6-B on standard Cranemaster overhead traveling cranes for every building condition. Capacities range from 3 to 20 tons, and are offered for spans from 18 to 58 ft.

▲ For more details circle NED-1024 F1 on enclosed inquiry slip ▲

Elastomer-Fabric Diaphragms

FREE Diaphragm Industries, Inc.—Discussed and illustrated in 4-page Form DI-100 are long stroke, rolling, preconvoluted, and molded convolution elastomer-fabric diaphragms for static or dynamic applications in aircraft and industry. Information about facilities for designing and making complete diaphragm assemblies and actuators is included.

▲ For more details circle NED-1025 F1 on enclosed inquiry slip ▲

CLARK-COOPER has a Metering Pump to suit your needs

Clark-Cooper pumps provide accurate, repeatable flow metering of all liquids, slurries and suspensions.

Clark-Cooper offers a complete line of interchangeable diaphragm and plunger pumps for you to choose from.
Clark-Cooper pumps are proved in hundreds of industrial applications.
Capacities range from 1500 c.c./ph to 3400 GPH—pressures 10,000 P.S.I.—repeatable accuracies to ±½%.
Exclusive CC drop-out check valve system provides easy maintenance.
All CC pumps are exhaustively tested prior to shipment.

Write today for complete data

CLARK-COOPER DIVISION
FREDERIC B. STEVENS, INC.
Palmyra, New Jersey
REPRESENTATIVES IN ALL PRINCIPAL CITIES

▲ For more details circle NED-1026 F1 on enclosed inquiry slip ▲

NEW...

Molded Polyethylene Drums...

Molded Polyethylene Drums—up to 55 gallon capacity for materials handling and storage. Specially designed for use where corrosion is a problem... last much longer than steel drums, yet are much cheaper than stainless. Molding insures uniform wall thickness. Drums are light, and easy to handle... easily cleaned and tightly sealed. Nesting when empty saves needed storage space. The most modern, practical way to handle and store materials today.

Write for information and prices to:

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Distributorships and Mfg. Representatives Territories available

▲ For more details circle NED-1027 F1 on enclosed inquiry slip ▲

Only the new M-S-A® Gas Mask Line offers all these exclusive features:

New M-S-A Gas Mask Line with multiple interchangeable canisters includes: Industrial, All-Service, and Tank Gauger's or Super-Size.

ALL NEW

- Smooth, streamlined, oval-shaped canister. Seamless construction eliminates potential leaks inherent in soldered side and top seams.
- Unique nylon harness and molded canister holder resists acid, water, mildew. One shell fits all sizes of MSA canisters. Easy to clean. Easy to sanitize. Dries fast.
- Clearvue* facepiece permits full, unobstructed vision. Anti-fogging design. No lens loosening, pop-out, or leakage. Equipped with speaking diaphragm.
- Lightweight plastic case. Won't rot, warp or bind. Impervious to most acids and caustics. Smart, modern styling. Interlocking lid and bottom.

*Trademark

Write for informative bulletin.

MSA **MINE SAFETY APPLIANCES COMPANY**
Pittsburgh 8, Pennsylvania

▲ For more details circle NED-1028 F1 on enclosed inquiry slip ▲

this UNIPAK® can TAKE THE LOAD OFF TIRED CIRCUITS

It's no secret. It's one of Sprague Electric's power factor correction capacitors—proved in engineering principle . . . made by the world's largest capacitor manufacturer . . . listed by Underwriters' Laboratories . . . used by leading manufacturers the world over. Here's why—

Motors and similar equipment in your plant use both kilowatts (working current) and kilovars (magnetizing current). The kilowatts you buy from your electric company. The kilovars you can best supply yourself with Sprague power factor correction capacitors. And the more you supply, the greater your useful power, the less the load on present wiring, the lower your electric bill.

You can get a free estimate of potential savings in your plant, or literature giving more details by writing Sprague Electric Co., 183 Marshall Street, North Adams, Mass.

In Canada, write John R. Tilton Ltd., 51 McCormack Street, Toronto 9, Ont.

SPRAGUE®
world's largest capacitor manufacturer

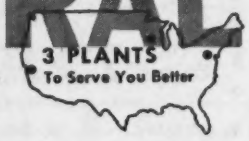
▲ For more details circle NED-1029 F1 on enclosed inquiry slip ▲

New Federal Combin-O-Tool Method
SAVES UP TO 46% ON SHORT RUN STAMPINGS

Some typical parts produced by Federal Combin-O-Tool Method.

Combined operations mean lower cost short run stampings whenever they can be produced by the Federal Combin-O-Tool Method. Where it formerly took 4 or 5 operations—it can now be done by Federal with only 2 or 3 operations. The labor savings are passed on to you in lower cost stampings.
Send your prints or parts today to see if they can be done with the new Federal Combin-O-Tool Method. The savings will please you.

FEDERAL



FEDERAL TOOL & MFG. CO
3618 Alabama Avenue • Minneapolis 16, Minn.
Phone WEst 9-7843
FEDERAL SHORT RUN STAMPING, INC.
918 Lyell Avenue • Rochester 6, New York
Phone CLearwater 4-9523
FEDERAL STAMPING COMPANY
7318 Atoll Avenue • North Hollywood, Calif.
TRiangle 7-0452

▲ For more details circle NED-1030 F1 on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

COMPOSITION FLOOR PRIMER
eases floor cleaning, maintenance

Applied easily with a clean string mop, First Coat water - emulsion-based primer for asphalt tile, vinyl, vinyl asbestos, linoleum, rubber tile, and terrazzo floors facilitates their maintenance and cleaning. It forms a hard colorless film which fills pores, never discolors, and does not require removal. Coat serves as a barrier between chemical action of the composition floors and the dressings and cleaners used upon them. It resists alkalies and will not dust or powder under traffic. Regular floor cleaning and redressing will not remove First Coat, although it can be removed with concentrated cleaner solutions and scrubbing pads. • Masury-Young Co., 76 Roland St., Boston 29, Mass.

▲ For more details circle NED-1032 F1 on enclosed inquiry slip ▲

COLOR-CODING ENAMELS
in ready-to-use 16-oz aerosol cans

Color - coding inventory stocks and work in progress; marking tools by departments; identifying piping, valves, and electrical connections; directing interplant routing of materials; and marking emergency equipment are uses for these fast drying color-coding enamels. They are packaged in 16-oz aerosol containers and will adhere to wood, metal, plastic, corrugated board, and other surfaces. They cannot be accidentally removed and can be applied indoors or outdoors. Eighteen enamel colors plus black and white lacquers, clear plastic, black and white enamels, flat black, and a zinc chromate primer are also available. • Reynolds Ink, Inc., 2075 E. 65th St., Cleveland 3, Ohio.

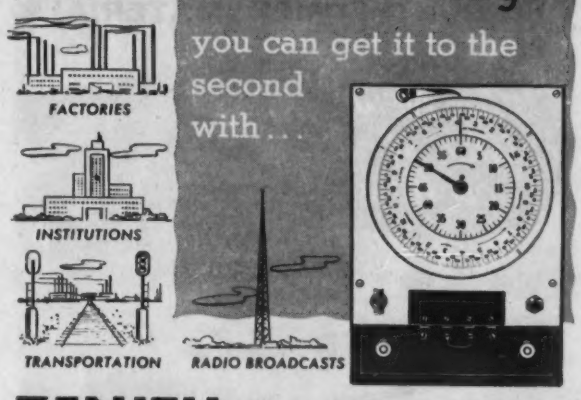
▲ For more details circle NED-1033 F1 on enclosed inquiry slip ▲

38 Decorative Expanded Metals

FREE Southern Electric, Inc., Designers Metal Div.—Weight, dimensions, percentage of open area, and materials available in each of 38 decorative expanded metal designs are included in 36-page Catalog 61. Each design is shown in actual size. Sections are devoted to terminology, metals expanded, finishes, and fabrication.

▲ For more details circle NED-1034 F1 on enclosed inquiry slip ▲

Need Efficient Timing?



you can get it to the second with . . .

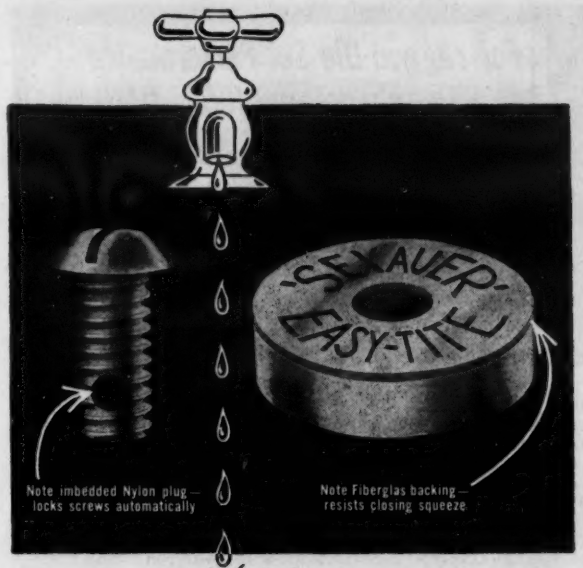
ZENITH program timers

Signal bells, buzzers, lights, etc. are dependably controlled with ZENITH units—proved in countless applications. Synchronous motor for accuracy...5-minute intervals in any 24-hour schedule ...easily changed...calendar cutout optional. *Write for bulletin.* See Classified Phone Book for Factory Representative.

TIMERS FOR ALL APPLICATIONS

ZENITH ELECTRIC CO.
152 W. WALTON ST. • CHICAGO 10, ILL.

▲ For more details circle NED-1035 F1 on enclosed inquiry slip ▲



New Way to Stop Faucet Leaks!

★ 9-in-10 washers are fastened with TOO LONG or SHORT SCREWS thus loosen and destroy themselves. Leaks quickly follow!

34 YEARS OF RESEARCH REVEALS NEW SOLUTION

★ New, patented 'Sexauer' SELF-LOCK screws have imbedded expanding NYLON PLUG. They lock at required depth AUTOMATICALLY, hold washers firmly! Made of MONEL, they are rustproof, non-corroding. Heads can't twist off. Screw slots can't distort.

★ NEW, improved 'SEXAUER' EASY-TITE faucet washers are made of super-tough, pliable du Pont compound (not rubber or fibre). Reinforced with a vulcanized layer of Fiberglas, they resist distortion and splitting from shut-off grind and squeeze.

★ Faucet leaks repaired with 'Sexauer' EASY-TITE faucet washers and SELF-LOCK screws outlast ordinary repairs "6-to-1"!

HIDDEN COSTS OF FAUCET LEAKS!

Hackensack, N. J. Water Co. and American Gas Association figures prove stopping just ONE PIN-HOLE SIZE (1/32") LEAK saves you 8,000 gal. water quarterly. A HOT WATER FAUCET LEAK repair saves you over $7.58 QUARTERLY in fuel and water bills. Fewer leaks also produce important savings on MATERIALS, LABOR and COSTLY FIXTURE REPLACEMENTS!

A 'Sexauer' Technician will make available our NEW Catalog, Edition "J", listing our entire line of over 3,000 TRIPLE-WEAR plumbing repair parts and tools. He will survey your fixtures, determine the repair parts needed and establish an efficient stock arrangement and control to prevent costly overstocking or shortages. You get this service without obligation. *Act now!*

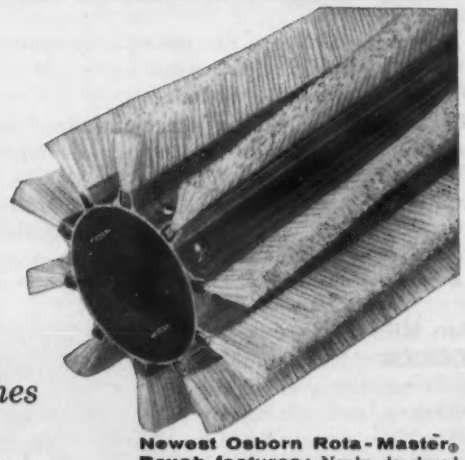
J. A. Sexauer Mfg. Co., Inc., Dept. AU-61
2503-05 Third Ave., New York 51, N.Y.
Please send me a copy of your NEW Catalog "J"
Name_____ Title
Organization_____
Bus. Address_____
City_____ Zone_____ State_____

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

▲ For more details circle NED-1036 F1 on enclosed inquiry slip ▲

HOW TO END CONVEYOR BELT CLEANING PROBLEMS

Unique OSBORN ROTA-MASTER® brushes do the job automatically . . . can cut your downtime and maintenance costs now



Newest Osborn Rota-Master® Brush features: Newly developed KORFIL®P fill material is extra-rugged . . . cleans more thoroughly, wears longer. New lightweight mounting is easier to handle and install. Mounting is re-usable . . . replacement strips easily inserted. In 16", 18", 24" face widths. Assemble in multiples for any belt size.

CARRYOVER on rubber and fabric conveyor belts can cause destructive wear—and add costly downtime hours spent in frequent cleaning. Osborn Rota-Master® Brushes automatically and efficiently prevent buildup of such materials as chemicals, food, tobacco, chips, core sand, coke and ore on belts, rolls, snubber pulleys and return idlers.

Easy to install and adaptable to any system—Rota-Master Brushes clean conveyor belts with a unique, flexible sweeping action that does a thorough job. Brushes are self-cleaning, simple to adjust for correct brushing pressures.

Write for details to help pinpoint exactly how you can cut costs and simplify your conveyor cleaning. *The Osborn Manufacturing Company, Dept. N-25, Cleveland 14, Ohio.*

Write For Rota-Master® Brush Booklet . . . includes complete application, specification and operational data for all types of conveyor belt cleaning requirements.

OSBORN

METAL FINISHING MACHINES . . . AND METHODS • INDUSTRIAL BRUSHES • FOUNDRY PRODUCTION MACHINERY

▲ For more details circle NED-1031 F1 on enclosed inquiry slip ▲

THE EASY WAY TO MOVE
AIR • DUST • FUMES • MATERIALS

Made of strong, durable coated fabrics, wire reinforced, and in sizes from 1¼" to 36" i.d. Flexaust hose and Portovent duct have been used for thousands of money-saving installations since 1938. New Catalog 605 gives detailed selection, price and installation data.

Send Today for Your FREE Copy

THE FLEXAUST COMPANY
DEPT. NED6, 100 PARK AVE • NEW YORK 17, N • Y •
Distributors in all principal cities

▲ For more details circle NED-1037 F1 on enclosed inquiry slip ▲

On those particularly tough jobs, there's nothing like a Danly Die Set for rugged, dependable performance. Even on longest production runs, Danly Die Sets prevent die shifting, protect dies. Turn out better, burr-free parts, too — and more of them between grinds. And with new Precision Pilot Guide Posts now available on all Danly Die Sets, assembly and dis-assembly are faster and easier than ever. If your needs demand smooth performance under most rugged conditions, depend on a Danly — either a standard or special Danly Die Set designed to your requirements.

DANLY

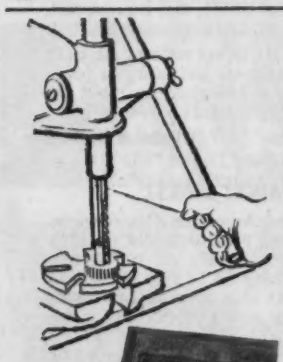
NEW literature tells how Danly's new PRECISION PILOT GUIDE POSTS assure perfect alignment for fast, easy die set assembly. Write for your copy.

PRECISION PRESSES, DIE SETS AND DIEMAKERS' SUPPLIES

DANLY

DANLY MACHINE SPECIALTIES, INC.
2100 South Laramie Ave., Chicago 50, Ill.

▲ For more details circle NED-1038 F1 on enclosed inquiry slip ▲

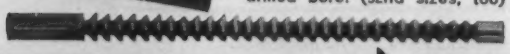


INSTANT KEYWAYS

With a Minute Man® Keyway Broach you can cut a keyway, by hand, in an arbor press *in one minute* for *as little as one cent.* Available individually or in kits complete with broaches, bushings, shims and key-stock. For keyways from 1/16" to 1" in any bore ¼" to 3"

SAVE TIME WITH *Minute Man®* STOCK BROACHES

SQUARE BROACHES
For finishing ⅛" to 1" square holes in one pass in cast or drilled bore. (32nd sizes, too)



SEND FOR CATALOG AND PRICE LIST

The duMont Corp., Greenfield, Mass.

MAIL FREE BROACH CATALOG AND PRICE LIST D describing Square Broaches, Hexagon Broaches, Production Type Keyway Broaches and Keyway Broach Kits to

Name .....

Company .....

Address .....

▲ For more details circle NED-1039 F1 on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

Electronic Wire & Cable

FREE Alpha Wire Corp.—Details on more than 6000 wire, cable, and tubing products for the electronics, communications, and allied industries are presented in 52-page Catalog 62. New products announced in the catalog include heat shrinkable tubing, retractile coil cords, Teflon tubing rated to 260° C, zipper tubing, shielding and braiding, shielded Teflon cables, Teflon magnet wire, and shielded audio cable.

▲ For more details circle NED-1040 F1 on enclosed inquiry slip ▲

Air Gage Purchasing Guide

FREE Standard Gage Co.—Compiled as an air gage selection guide, 32-page Catalog 61 is also a source of basic design data for the gage engineer and complete ordering information. Gages covered range from the simplest manual types to complex post-process, in-process, or automatic units. They handle inspection requirements from the small quantity job to high production automated operations.

▲ For more details circle NED-1041 F1 on enclosed inquiry slip ▲

Industrial Retaining Rings

FREE Industrial Retaining Ring Co.—Reduced prices of Series 1000, 3000, and 3100 retaining rings are listed in 12-page specifications and price Bulletin 1331. Open-type Series 1000 radial assembly ring comes in 0.040 to 1.0 in. sizes; Series 3000 internal axial assembly ring in 0.250 to 4.125-in. sizes; and the external, axial assembly Series 3100 in 0.125 to 3.438-in. sizes.

▲ For more details circle NED-1042 F1 on enclosed inquiry slip ▲

Valves, Cylinders & Accessories

FREE Airmatic Valve, Inc.—Line of valves, cylinders, accessories, pumps, and special controls are items covered as to specifications, features, and dimensions in 6-page condensed Catalog 91051. It introduces a new series of control valves in sizes from ¼ through 12 in.

▲ For more details circle NED-1043 F1 on enclosed inquiry slip ▲

Plastics for Science & Industry

FREE Bel-Art Products—Products made of acetate, acrylic, vinyl, polypropylene, nylon, polyethylene, Teflon, Styrene, and other plastics are listed in 40-page Catalog 161. Items include dust covers, protective garments, filters, bottles, dispensers, containers, trays, medical ware, pails and basins, jars and beakers, racks, tubing, sheeting, protective matting, faucets, tanks, stirrers, flasks, and others.

▲ For more details circle NED-1044 F1 on enclosed inquiry slip ▲

Valves for Plastic Inflatables

FREE Halkey-Roberts Corp.—Two bulletins and a price list cover line of valves for all types of inflatable items. Listed in Catalog 578 are electronic sealing, push-pull all plastic, clamp-on, insertion, and drain valves, along with stem adapters and dust and sand caps.

▲ For more details circle NED-1045 F1 on enclosed inquiry slip ▲

Floor Maintenance Products

FREE Hadco Corp.—Recommended applications and concentrations for sanitary maintenance products, floor strippers, chemical specialties, waxes, and protective finishes are furnished in 12-page brochure. Company's quality control system and preventive maintenance programming aids are reviewed as well.

▲ For more details circle NED-1046 F1 on enclosed inquiry slip ▲

Jar Mills & Jars

FREE Abbe Engineering Co.—Ball or pebble jar mills and jars available for batch grinding, pulverizing, blending, and mixing are subject of 16-page Catalog 83. Mills are available in capacities from small fractional-pint jar units to 60-gal multiple jar models. They handle wet or dry, hard or soft, abrasive or corrosive materials.

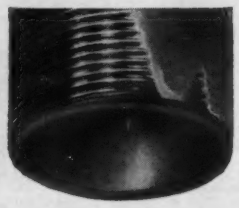
▲ For more details circle NED-1047 F1 on enclosed inquiry slip ▲

Steel Storage Equipment

FREE Alan Wood Steel Co., Penco Div.—"12 Losses Penco Planning Can Control" is title of 16-page booklet on steel storage equipment. It shows how careful selection of equipment can speed inventory, save space, control theft, speed order filling and shipping, reduce accidents, reduce cleaning costs, improve employee morale, reduce production bottlenecks and damage, cut insurance costs, and reduce excessive handling.

▲ For more details circle NED-1048 F1 on enclosed inquiry slip ▲

SEAL FOR SURE ... USE KEY-TITE



Protect joints from seizing with Key-Tite waterproof sealing compound. It lubricates while it seals and is completely non-toxic... safe for potable liquids, fully effective for water, gas and low-pressure lines.

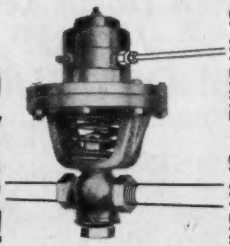
Send for circular 239-B, P. O. Box 2117, Houston, Texas

W-K-M DIVISION
ACF INDUSTRIES

▲ For more details circle NED-1049 F1 on enclosed inquiry slip ▲

G. W. DAHL • G. W. DAHL • G. W. DAHL • G. W. DAHL

PACKAGED PNEUMATIC RELAY MONITORS CONTROL SIGNALS!



Approx. ¼ actual size

Dahl MITE 70 . . . versatile two-way, snap-acting control relay . . . can be integrally mounted on Dahl control valves or used elsewhere in control circuits on air or non-toxic gas applications.

Rugged MITE 70 offers variety of control actions at settings from 1 to 100 psig. Crisp tripping action (on either increasing or decreasing signal) vents one control circuit while locking up a second. Can be set to trigger an alarm while locking up a valve when controller signal reaches predetermined set point. For positive, reliable actuation of diaphragm motor valve operators, air cylinders, or other pneumatic control elements.

Features include safety trip-out with manual reset . . . compact size (2½" dia. x 3½" high) . . . temperature limits from —40° F to +180°F. Request Bulletin M-70 for complete details. G. W. Dahl Co., 88 Tupelo Street, Bristol, Rhode Island.

G. W. DAHL CO., INC.
SPECIALISTS IN COMPACT VALVES AND CONTROLS

G. W. DAHL • G. W. DAHL • G. W. DAHL • G. W. DAHL

▲ For more details circle NED-1050 F1 on enclosed inquiry slip ▲

POSSONS PULL-BACK SAFETY DEVICES

For:
PUNCH PRESSES
TOGGLE PRESSES
PRESS BRAKES
EMBOSSING PRESSES
DROP HAMMERS

37,000 IN USE!

Pulls operator's hands out of danger if he forgets or if press repeats!

PULL-BACK ACTION is performed by steel-cored cables, fastened to wrist bands on the operator's hands. The pull-back is actuated by a multiplier (gear, rack and cam), connected by a rod to the press ram below any possible breaking point. For free aisle space, use beam or ceiling attached type. FREE CATALOG—Shows how POSSONS Safety Devices are applied to various types of presses. Engineering service available.

THE POSITIVE SAFETY MANUFACTURING CO.
4404 Perkins Avenue • Cleveland 3, Ohio • UTah 1-1878
In Canada: SAFETY SUPPLY COMPANY • Toronto, Ontario

▲ For more details circle NED-1051 F1 on enclosed inquiry slip ▲

IT'S CLEAR TO SEE THE JOB'S DONE right . . . with BUCHANAN pres-SURE-connectors

Visual inspection of completed splices is quick and easy. Buchanan Snap-on Nylon insulators are the clearest you've ever looked through. And, there's no guesswork in splicing either—just two Buchanan splice caps cover a wide range of wire sizes and one pres-SURE-tool installs both.

Want proof? Ask us for the name of your nearest representative. And let us send you Bulletin J-6.

Splice caps listed as "pressure-type wire connectors" and "fixture-type splicing connectors" for 2 #18 thru 3 #8 or 2 #6. Insulators UL and CSA listed for 600 v. on building wire and 1000 v. in fixtures, in applications up to 105°C. (221°F.).

BUCHANAN

BUCHANAN ELECTRICAL PRODUCTS CORPORATION
HILLSIDE, NEW JERSEY
In Canada: ESNA CANADA LIMITED, Toronto 18

▲ For more details circle NED-1052 F1 on enclosed inquiry slip ▲

NOW... Increase Machine Production ...Improve Worker Safety

New GLEASON ECONOREEL

AUTOMATIC CORD TAKE-UP

Longer cord service, smoother action, improved operating convenience, less production downtime — are only a few advantages of New Gleason ECONOREEL on your electric powered hoists and other equipment-in-motion. Built to outlast ordinary reels, ECONOREEL has many unique features: new heavy duty 4-pole collector and brush assembly with interlocked collector rings, safety terminal block; replaceable spring motor with adjustable tension; adjustable holding dog; prelubricated bearings; two-way payout, plus many accessories. Heavy 20 Amp. capacity, for voltages to 550 AC, 250 DC; handles 2 to 4 conductor No. 18 to 12 A.W.G. cord up to 45 feet in length. *Write for new bulletin No. 613.*

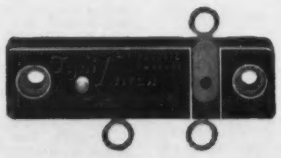
Gleason Reel Corp
Dept. A, 800 Horicon St., Mayville, Wis.
Represented in Principal Cities

Cable Reels | Powertraks | Magnetic Drives | Hose Reels | Dockboards

▲ For more details circle NED-1053 F1 on enclosed inquiry slip ▲

Tyniswitch®—miniature in size, but positive in action—makes contact every time regardless of shock, vibration and constant cycling.

ACTUAL SIZE
Length 1 5/8"—Width 7/16"—Depth 11/32"



IT ADDS UP TO . . .

NO BOUNCE!

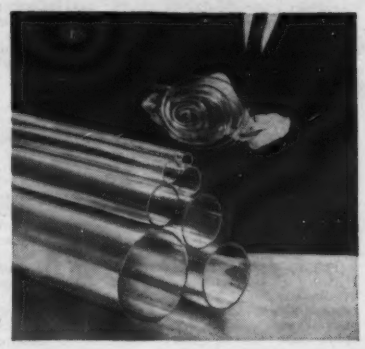
Write—right now—for Bul. 274.
American-Standard Controls Division,
5900 Trumbull, Detroit 8, Michigan.

AMERICAN-Standard
CONTROLS DIVISION

▲ For more details circle NED-1054 F1 on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

TRANSPARENT PLASTIC TUBING in 76 OD's from ¾ to 6⅝ in.



Clear as glass and readily machined, Busada 200 transparent butyrate plastic tubing can be drilled, sawed, tapped, turned, and cut with ordinary tools. It is relatively inert and can be used safely with many corrosive chemicals. Impact strength is 2 ft-lb per inch of notch at 73.4° F, which drops to 0.9 ft-lb at −40° F. It is available in 76 standard sizes ranging from 0.75-in. OD with a 1/16-in. wall up to 6.625-in. OD with a ¼-in. wall. • **Busada Mfg. Corp.**, 32-21 Downing St., Flushing 54, N. Y.

▲ For more details circle NED-1055 F1 on enclosed inquiry slip ▲

FLOOR & CONCRETE PAINT dries hard, takes traffic in 30 min

Lasting, abrasion resistant coating for concrete, wood, linoleum, tile, composition, and metal surfaces is provided by Jet-Dri floor and concrete paint. It dries hard in 30 min so that areas of heavy traffic can be used almost immediately after application. Recoating in 1 hr is possible. Usually used without a thinner, but thinned with mineral spirits when required, the paint stands up under alcohol, acids, oil, gasoline, and boiling water. Quarts and gallons are available in tile red, tile green, light deck gray, and slate gray. • **Consolidated Chemical & Paint Mfg. Co.**, 456 Driggs Ave., Brooklyn 11, N. Y.

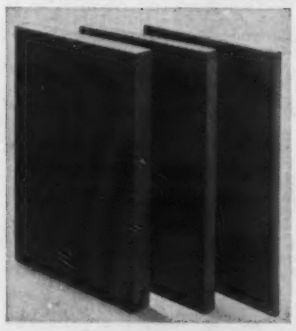
▲ For more details circle NED-1056 F1 on enclosed inquiry slip ▲

CONTACT CEMENT bonds similar, dissimilar materials

Magic contact cement is applied by coating the two facing surfaces, allowing 5 to 15 min for air drying, then firmly pressing the materials together. No clamps are needed to obtain a firm, but flexible bond that is resistant to heat, water, and oil. Wood, Masonite, metals, rubber, paper, Fiberglas, leather, and most plastics can be joined. Bonding plastic laminates to counter tops and attaching plywood paneling without nails are among its uses. Cement is packaged in ½ and 1 pt, 1 qt, and 1 gal sizes. • **Magic Iron Cement Co.**, 14215 Caine Ave., Cleveland 28, Ohio.

▲ For more details circle NED-1057 F1 on enclosed inquiry slip ▲

RIGID URETHANE INSULATION in panel thicknesses up to 11 in.



High insulation efficiency of rigid, closed-cell urethane foam sheets suits it for use in freezers, cold-storage plants, electrically heated and air-conditioned buildings, ducts, walls, pipes, and equipment. Offered in a flame-retardant coated version as well as in standard urethane foam, insulation is available in panel thicknesses up to 11 in. It weighs about 2 lb per cu ft and can be cut and shaped with conventional tools. Applied directly with hot asphalt and other adhesives, it is impervious to rot, is dimensionally stable, and will not absorb water. Tensile strength averages 40 psi. • **Allied Chemical Corp.**, Barrett Div., 40 Rector St., New York 6, N. Y.

▲ For more details circle NED-1058 F1 on enclosed inquiry slip ▲

Fix them fast with SPEED PATCH
EASILY APPLIED BY ONE MAN
NO TRAFFIC DETOURS, NO WAITING

Worn, broken floors slow down traffic, increase accident hazards. Smooth out rough floors, improve safety, with Speed-Patch! Ready-mixed, easy to apply. Two grades; Speed-Patch Regular for covering large areas, wide holes and cracks; Speed-Patch Fine for shallow holes, thin cracks, etc. Send for details.

ROCK-TRED Corporation
Manufacturers of a Complete Line of Building Maintenance Materials
7440-7450 North St. Louis Avenue • Skokie, Illinois

▲ For more details circle NED-1059 F1 on enclosed inquiry slip ▲

HANSEN SERIES ST
STRAIGHT THROUGH QUICK-CONNECTIVE COUPLING... WITHOUT SHUT-OFF VALVES

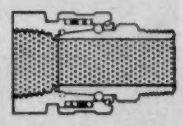
O-RING SEAL

• Smooth unrestricted bore permits full flow without pressure drop. Plug automatically locks in place when connected to Socket—is readily disconnected merely by pulling back Socket Sleeve.

Available with bore diameters from ¼" to 2½" inclusive. Furnished with brass sockets and either brass or steel Plugs—and with female pipe thread, male pipe thread, or hose stem connections.

Hansen Series ST Straight Through Couplings are now also available in stainless steel with bore diameters up to 2" inclusive—with female pipe thread or male pipe thread connections in commonly used sizes.

Shaded section shows free flow of liquid or gas through connected Hansen Series ST Coupling.



Write for the Hansen Catalog

a ready reference when you want information on couplings in a hurry. Lists complete range of sizes and types of Hansen Two-Way Shut-Off, One-Way Shut-Off, and Straight Through Couplings.

Representatives in Principal Cities

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

▲ For more details circle NED-1060 F1 on enclosed inquiry slip ▲

FULL CONE—HOLLOW CONE—FLAT SPRAY

Spraco has the most complete line of nozzles available anywhere — **IN STOCK.** Capacities range from ⅛ pint/min. to 4000 gal./min. Bronze, cast iron, and stainless steel. Write for our nozzle catalog.

SPRAY ENGINEERING CO., *106 Cambridge St., Burlington, Mass.*

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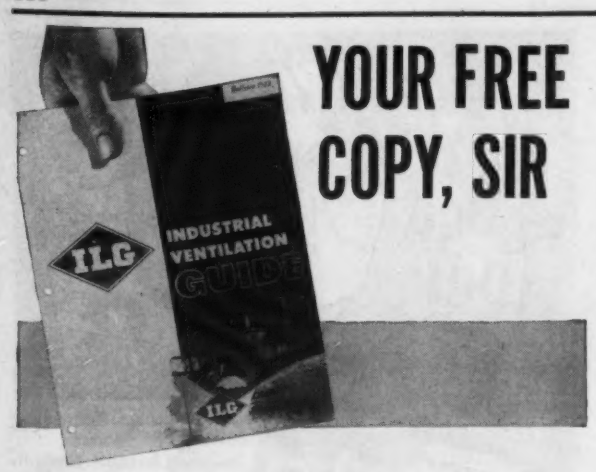

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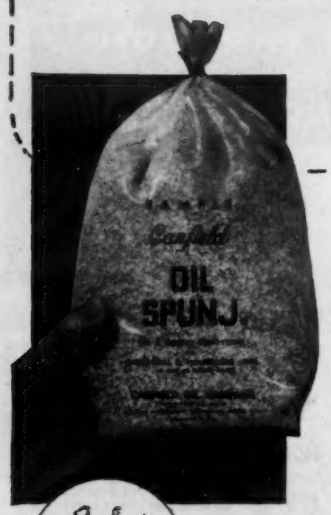

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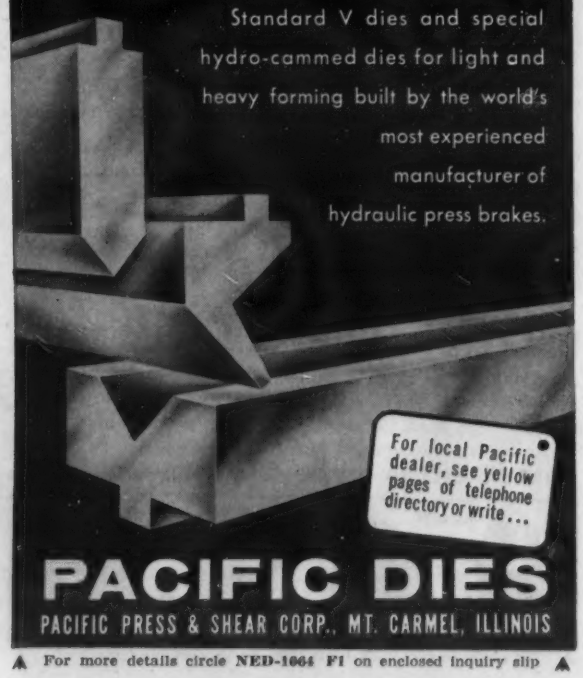

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Index to Advertisers

A

A & A Mfg. Co., Inc. 79
ACF Industries, Inc., W-K-M Div. 108
Abart Gear & Machine Co. .. 42
Abrasive Products, Inc. 19
Acheson Colloids Co. 31
Acme Steel Co. 12
Adams, R. P., Co., Inc. .. 5
Advance Floor Machine Co. 48
Aeroquip Corp. 22
Aerovent Fan Co., Inc. 22
Aget Mfg. Co. 17
Air-Hydraulics, Inc. 86
Air-Mite Devices, Inc. 85
Airetool Mfg. Co. 83
Albion Industries, Inc. 67
Alemite Div., Stewart-Warner Corp. 14, 49, 111
Allen, Alva, Industries 72
Allen-Bradley Co. 34
Allenair Corp. 39
Allis, Louis, Co., The 18, 64
Alnor Instrument Co. Div. of Illinois Testing Laboratories, Inc. 27
Alpha-Molykote Corp. 94
Alsop Engineering Corp. ... 86
Alsto Co. 67
Aluminum Co. of America .. 95
Aluminum Products, Inc. 101
Alvey-Ferguson Co., The 6
American Air Filter Co. ... 87
American Chain & Cable Co., Inc., Helicoid Gage Div. .. 18
American Floor Machine Co., Div. of American-Lincoln Corp. 3
American Industrial & Scientific Co. 32
American-Lincoln Corp. ..3, 52
American Machine and Metals, Inc. 56, 84
American Metal Products Co. 39
American Meter Co. 31, 72
American MonoRail Co. 44
American Optical Co., Safety Products Div. 27
American Pulley Co. 78
American Standard, Detroit Controls Div. 109
American-Standard, Rochester Instruments Plant 41
American Viscose Corp. 90
Ames, B. C., Co. 76
Anaconda Metal Hose 32
Anchor Coupling Co. 31
Apex Machine & Tool Co. .. 58
Arcair Co. 103
Arcos Corp. 90
Arno Adhesive Tapes, Inc. .. 29
Atlantic Abrasive Corp. 23
Aurand Mfg. & Equipment Co. 3
Aurora Pump Div., The New York Air Brake Co. 35
Auto-Ponents, Inc. 23, 94
Automatic Switch Co. 77

B

B-I-F Industries 72
Babbitt Steam Specialty Co. 30
Backus Machine Works 83
Ballymore Co. 105
Barreled Sunlight Paint Co. .. 73
Basnik, Vince, Co., The 86
Bassick Co. 74
Bead Chain Mfg. Co. 92
Beam Products Mfg. Co. 76
Bear Mfg. Co. 62
Beaver Pipe Tools, Inc. 38
Beck Equipment Co. 35
Bellows-Valvair 58
Berkley & Co. 106
Biddle, James G., Co. 98
Big Joe Mfg. Co. 93
Black & Decker Mfg. Co. 61, 112
Black & Webster, Inc. 63
Black Drill Co., Inc. 37
Black, Sivalls & Bryson 9
Blaw-Knox Equipment Div., Blaw-Knox Co. 33
Borroughs Mfg. Co. 78
Bostitch, Inc. 19
Breeze Corporations, Inc. .. 41
Brewer Machine Co. 60
Bridgeport Fabrics, Inc. 93
Briggs Filtration Co. 103
Brightboy Industrial Div., Weldon Roberts Rubber Co. 49
Brooks & Perkins, Inc. 26
Brown, W. R., Corp. 75
Brown Engineering Co. 80
Browning Mfg. Co. 2
Buchanan Electrical Products Corp. 109
Buckeye Tools Corp. 37
Bumpers, Inc. 64
Burgess-Manning Co. 60
Burt Mfg. Co. 65
Buschman, E. W., Co. 8
Bussmann Mfg. Co. 56, 57

C

C & D Batteries, Inc. 42
Cabot, Samuel, Inc. 79
Cam-Lok Div., Empire Products, Inc. 71
Cambridge Wire Cloth Co. ... 81
Campbell Chain Co. 22
Canfield Oil Co. 110
Carborundum Co., Curtis Machine Div. 12
Carpenter Steel Co. 65, 104
Carter Controls, Inc. 106
Ceilcote Co., Inc. 44
Chicago Eye Shield Co. 30
Chicago Wilcox Mfg. Co. ... 64
Chisholm-Moore Hoist Div. . 9
Clark-Cooper Div., Frederic B. Stevens, Inc. 106
Clark-Cutler-McDermott Co... 82
Clauss Cutlery Co. 6, 7
Clements-Cadillac Quick-Vac. 10
Clements Mfg. Co. 10
Cleveland Crane & Engineering Co. 84
Cleveland Instrument Co. ... 38
Cleveland Tramrail Div., Cleveland Crane & Engineering Co. 84
Cleveland Vibrator Co. 36
Cleveland Worm & Gear Div., Eaton Mfg. Co. 88
Coffing Hoist Div. of Duff-Norton Co. 3
Cole-Parmer Instrument & Equipment Co. 5
Colorado Fuel & Iron Corp., The 69
Columbia Electric Mfg. Co.. 55
Columbus McKinnon Corp. .. 8
Commander Mfg. Co. 58
Commercial Centerless Grinding Co. 63
Commercial Shearing & Stamping 40
Conco Engineering Works .. 43
Cone Drive Gears Div., Michigan Tool Co. 104
Conley, Baltzer & Steward, Rol-A-Chart Div. 44
Convoy, Inc. 62
Cooke, Troughton & Simms, Inc. 68
Coppus Engineering Corp. .. 32
Corrosion Reaction Consultants 10
Cover, H. S. 8
Crane Packing Co. 99
Crosby Laughlin Div., American Hoist & Derrick Co. ... 93
Cullen-Friestedt Co. 94
Cunningham, M. E., Co. 52
Curtiss-Wright Corp., Princeton Div. 16
Custom Machine Co. 52
Cutler-Hammer, Inc. 61

D

Dahl, G. W., Co., Inc. 108
Danielson Mfg. Co. 71
Danly Machine Specialties, Inc. 108
Day Co., The 49
Daystrom, Inc., Weston Instruments Div. 14
DeBothezat Fans, A Div. of American Machine and Metals, Inc. 84
Decker Nut Mfg. Co. 74
Defiance Machine & Tool Co. 38
Delta Power Tool Div., Rockwell Mfg. Co. 21
DeMarkus, Louis, Corp. 94
Deming Co. 21
Dempster Brothers 99
Despatch Oven Co. 102
Detecto Scales, Inc. 49
Detroit Controls Div., American Standard 109
Detroit Stamping Co. 40
Deublin Co. 75
DeVilbiss Co. 31
DeWalt, Inc. 10
Di-Acro Co. 13
Diagraph-Bradley Industries, Inc. 40
Diamond Expansion Bolt Co. 53
Dings Magnetic Separator Co. 51
Dixon Automatic Tool, Inc. 38
Dixon Valve & Coupling Co. 46
Dodge Mfg. Co. 47
Dow Corning Corp. 54
Drake Manufacturing Co. .. 18
Driv-Lok Sales Corp. 101
Drum Parts, Inc. 70
Dudek & Bock Spring Mfg. Co. 9
Duff-Norton Co. 3
duMont Corp. 108
Dundick Tool Works, Inc. .. 68
Duo-Fast 23
Durabla Mfg. Co. 84
Durant Mfg. Co. 97
Dust Suppression & Engineering Co. 26
Dwyer, F. W., Mfg. Co. 57
Dynapar Corp. 18

E

EICO 111
Eastern Industries, Inc. 54
Eastman Kodak Co. 51
Edmund Scientific Co. 2, 112
Edroy Products Co. 88
Elastic Stop Nut Corp. of America 55
Electri-Flex Co. 47
Electric Autolite Co., The .. 51
Electric Regulator Corp. 82
Electroline Products 87
Elliott Co. 30
Equipment Mfg. Inc. 25
Esterbrook Pen Co. 34

F

Faber, A. W., Castell Pencil Co. 46
Fabreeka Products Co., Inc. 14
Fafnir Bearing Co. 66
Farrelloy Co. 112
Fastener Corp. 23
Federal-Mogul Div., Federal-Mogul-Bower Bearings, Inc. 26
Federal Products Corp. 99
Federal Sign & Signal Corp. 45
Federal Tool & Mfg. Co. .. 107
Feedmatic-Detroit, Inc. 53
Ferguson, J. L., Co. 10
Ferro Corp. 70
Fidelity Chemical Products Corp. 65
Flexaust Co., The 108
Flexo Products, Inc. 24
Flexonics Corp. 19
Flexrock Co. 112
Foley Mfg. Co. 101
Foredom Electric Co., Inc. .. 57
Foxboro Co. 5
Fulflo Specialties Co., The.. 55
Fuller Co. 26

G

GPE Controls, Inc. 91
Garden City Fan & Blower Co. 88
Garlock, Inc. 35
Gast Mfg. Corp. 28
Gemco Electric Co. 10
General Electric Co. 29, 99
General Radio Co. 16
General Scientific Equipment Co. 5
General Vacuum Corp. 92
Gerrard, A. J., & Co. 103
Gits Bros. Mfg. Co. 100
Gleason Reel Corp. 109
Globe Co., The, Products Div. 36
Go-Power Corp. 6
Goodrich, B. F., Tire Co., A Div. of The B. F. Goodrich Co. 25
Goodyear Tire & Rubber Co. 27
Gorman-Rupp Co., The 45
Gottscho 40
Graphic Systems 85
Gravely Tractors, Inc. 94
Gray Co., Inc. 70
Gries Reproducer Corp. 90
Grieve-Hendry Co. 24
Grip Nut Co. 80
Griphoist, Inc. 46

H

Hagen Mfg. Div. of The Gamewell Co. 22
Hallemite Mfg. Co. 25
Hamilton Tool Co., The 15
Hankison Corp. 10
Hannay, Clifford B., & Son, Inc. 54
Hannifin Co. Div. of Parker-Hannifin Corp. 94
Hansen Mfg. Co. 14, 109
Harrington Co., The 82
Hartzell Propeller Fan Co. .. 63
Heckethorn Mfg. & Supply Co. 96
Helicoid Gage Div., American Chain & Cable Co., Inc. 18
Hetherington & Berner, Inc. 48
Hevi Duty Electric Co. 98
Hobart Brothers Co. 47
Hobbs, John W., Corp. 16
Hobbs Mfg. Co. 55
Hoffman Bros. Drilling Co. .. 101
Hollaender Mfg. Co. 84
Homer Mfg. Div., The Ohio Electric Mfg. Co. 10
Homestead Valve Mfg. Co. .. 42
Hough, Frank G., Co. 105
Houghton, E. F., & Co. 89
Hunt Valve Co. 64
Huther Bros. Saw Mfg. Co., Inc. 4
Hyde Mfg. Co. 34
Hydraulic Mfg. Co. 112
Hydroway Scales, Inc. 44

I

Ideal Industries, Inc. 4
Ilg Electric Ventilating Co... 110
Imperial Electric Co. 20
Industrial Plastic Fittings Div., The R & K Plastic Industries, Inc. 6
Industrial Retaining Ring Co. 67
Ingersoll-Rand 53
Injection Molders Supply Co. 73
Ironbound Box & Lumber Co. 19
Irwin-Sensenich Corp. 59

J

Jacobson Nut Mfg. Corp. .. 65
Jamison Cold Storage Door Co. 90
Jeffrey Mfg. Co. 96
Jenkins', M. W., Sons, Inc. 104
Jergens Tool Specialty Co... 81
John A. Roebling's Sons Div., The Colorado Fuel & Iron Corp. 78
Johnson Mfg. Corp. 38
Jomac, Inc. 103
Jones & Hunt, Inc. 32
Jones & Laughlin Steel Corp. 39
Jones Motrola Corp. 24
Justrite Mfg. Co. 8

K

K-D Mfg. Co. 83
Kano Laboratories 26
Kennedy Mfg. Co. 64
Kidde, Walter, & Co., Inc... 21
Kilian Mfg. Corp. 36
King Engineering Corp. 30
King Graphite Products, Inc. 8
Kingsley Machine Co. 2
Kinnear Mfg. Co. 87
Koppers Co., Inc. 38
Kordite Co. 2

L

Lamb Electric Co. 104
Lapeer Mfg. Co. 82
Leiman Bros., Inc. 60
Leonard Precision Products Co. 90
Lepel High Frequency Laboratories, Inc. 35
Lermer Plastics, Inc. 62
Lewis, G. B., Co. 43
Lincoln Engineering Co. ... 50
Lincoln Floor Machinery Co., Div. of American-Lincoln Corp. 52
Link-Belt Co. 27
Littell, F. J., Machine Co... 98
Littell, F. J., Machine Co., Vac-U-Mation Div. 86
Locke Steel Chain Co. 25
Logan Co. 4
Logan Engineering Co. 102
Lovejoy Flexible Coupling Co. 96
Lucifer Furnaces, Inc. 100
Lyon Metal Products, Inc. .. 77

M

M B Electronics, A Div. of Textron Electronics, Inc... 97
Mac-It Parts Co. 51
Macwhyte Wire Rope Co. .12, 91
Magline, Inc. 112
Magnatrol Valve Corp. 43
Mahon, R. C., Co. 20
Main, Robert A., & Sons, Inc. 96
Markal Co., The 8
Markem Machine Co. 72
Marsh Instrument Co. 106
Martin-Decker Corp. 40
Mason-Neilan Div., Worthington Corp. 60
Masonite Corp. 46
Master Power Corp., Subsidiary of Black & Decker Mfg. Co. 78
May-Fran Mfg. Co. 74
McCord Corp. 22
McGill Mfg. Co. 23, 74
Mead Specialties Co. 84
Mechanical Products Corp... 83
Mehl Mfg. Co. 2
Mercoid Corp. 60
Merkle-Korff Gear Co. 50
Merrill Brothers 25
Methods Research Corp. 33
Metron Instrument Co. 75
Michigan Oven Co. 79
Micro-Switch, A Div. of Minneapolis-Honeywell Regulator Co. 22
Miller-Knuth Mfg. Co. 4
Milwaukee Electric Tool Corp. 92
Mine Safety Appliances Co.. 106
Mine & Smelter Supply Co. 76
Minneapolis-Honeywell 37
Minnesota Mining & Mfg. Co. 49
Mixing Equipment Co., Inc. 71
Molded Fiber Glass Tray Co. 76
Monroe Co., Inc. 32
Morse Chain Co., A Borg-Warner Industry 81
Morse Mfg. Co., Inc. 20
Mortell Co. 35
Morton Mfg. Co. 4
Motoresearch Co. 16
Mueller Brass Co. 24
Murphy, Jas. A., & Co., Inc. 27

N

NRC Equipment Corp. 100
National Acme Co. 73
National Chemsearch Corp... 98
National Metal Abrasive Co., Ballast Div. 5
National Pneumatic Co., Inc. 8
National Rivet & Mfg. Co. ... 66
National Screw & Mfg. Co. .. 63
National Vulcanized Fibre Co. 58
Navan, A Subsidiary of North American Aviation, Inc. .. 34
Naylor Pipe Co. 93
New York Air Brake Co., The, Aurora Pump Div. .. 35
Niagara Blower Co. 57
Norgren, C. A., Co. 50
Northwestern Tools, Inc. .. 22
Nylomatic Corp. 68
Nylitite Corp. of America 50

O

Ohio Gear Co. 48
Ohio Nut & Bolt Co. 17
Ohio Rod Products Co., Inc. 80
Oil-Dyne, Inc. 33
Oil-Rite Corp. 19
Osborn Mfg. Co., The 107

P

Pacific Press & Shear Corp. 110
Packaged Merchandise Co. ... 30
Palnut Co., The 82
Paltier Corp., The 67
Paragon Spring Co. 23
Parker-Hannifin Corp. 9, 94
Parker Fittings & Hose Div. of Parker-Hannifin Corp.. 9
Patterson-Kelly 101
Peck's Products Co. 51
Pedrick Tool & Machine Co. 80
Penco Div., Alan Wood Steel Co. 81
Perfecting Service Co. 16, 17
Permacel 54
Permatex Co., Inc. 92
Pfaudler-Permutit, Inc., Pfaudler Div. 53
Phillips Process Co., Inc. .. 17
Photomation, Inc. 60
Pioneer-Central Div., Bendix Aviation Corp. 18
Pioneer Rubber Co. 28, 29
Platecoil Div., Tranter Mfg., Inc. 40
Pneumatic-Hydraulic Development Co., Tom Thumb Div. 80
Portage Double-Quick, Inc.. 16
Porter-Cable Machine Co. .. 90
Positive Safety Mfg. Co. ... 108
Potter & Brumfield Div. of American Machine & Foundry Co. 88
Powertron Ultrasonics Corp. 52
Prab Conveyor Co. 50
Preformed Metal Products Co., Inc. 75
Pres-On Products Co. 6
Professional Tape Co., Inc. 62
Propellair Div. of Robbins & Myers, Inc. 85
Protectoseal Co., The 79
Pulverizing Machinery Co. ... 32
Puritan Cordage Mills, Inc. 42
Pyles Industries, Inc. 34
Pyrodyne, Inc. 24

Q

Queen City Machine Tool Co. 3
Quickdraft Corp. 67

R

Raybestos-Manhattan, Inc. . 36
Raymond Corp., The 47
Redmanson Corp. 106
Reproduction Engineering Corp. 56
Republic Rubber Div. 45
Republic Steel Co. 20, 101
Research Products Corp. .. 59
Reuland Electric Co. 100
Revco, Inc. 71
Revolvator Co. 99
Reynolds Ink, Inc. 79
Richards, J. A., Co. 44
Richards-Wilcox Mfg. Co. ...3, 103
Riehle Testing Machines Div., American Machine and Metals, Inc. 56
Robbins & Myers, Inc., Hoist & Crane Div. 41
Robbins & Myers, Inc., Hunter Div. 6
Robbins & Myers, Inc., Pump Div. 48
Roberts, Weldon, Rubber Co., Brightboy Industrial Div.. 49
Rock-Tred Corp. 109
Rockwell Mfg. Co. 21
Rogan Brothers, Inc. 62
Roll-A-Reel 50
Rose Mfg. Co. 5
Rotary Lift Co. 15, 66
Rotolite Sales Corp. 97
Rotor Tool Co. 102
Roura Iron Works, Inc. 74
Royal Metal Mfg. Co. 71
Rusticide Products Co. 20

S

SKF Industries, Inc. 56, 57
Sarco Co., Inc. 53
Sauereisen Cements Co. 9
Schmidt, Geo. T., Inc. 59
Schrader's, A., Son, Div. of Scovill Mfg. Co. 12, 97
Schutte & Koerting Co. 14
Sel-Rex Corp., The Meaker Co. Subsidiary 61
Service Machine Co. 14
Set Screw & Mfg. Co. 24
Sexauer, J. A., Mfg. Co. 107
Shakeproof Div., Illinois Tool Works 61
Shaw-Perkins Mfg. Co. 72
Sheffield Corp., The 102
Signode Steel Strapping Co. 39
Simmons Fastener Corp. 77
Simplicity Engineering Co. .. 80
Sinclair-Collins Valve Co., The 102
Skil Corp. 20
Skinner Electric Valve Div.. 34
Smith Bearing Div., Accurate Bushing Co. 86
Smith-Florence, Inc. 85
Smooth-On Mfg. Co. 42
Snap-On Tools Corp. 36
Sommer Metalcraft Corp. .. 59
Southco Div., South Chester Corp. 105
Speed Selector, Inc. 59
Spee-Flo Co. 46
Sprague Electric Co. 107
Spray Engineering Co. 109
Spraying Systems Co. 102
Sprayon Products, Inc. 85
Sprout-Waldron & Co. 56
Square D Co. 91
Stackbin Corp. 45
Stackpole Carbon Co. 63
Standard Pressed Steel Co. 14, 15
Sta-Warm Electric Co. 17
Stearns Electric Corp. 112
Stearns Magnetic Products Div. of Indiana General Corp. 111
Stephens-Adamson Mfg. Co. 15, 30
Stewart-Warner Corp. 64
Stewart-Warner Corp., Alemite Div. 14, 49, 111
Stiles-Karlsonite Corp. 87
Stokvis Multiton Corp. 18
Stone Container Corp. 72
Stow Mfg. Co. 74
Stratos, A Div. of Fairchild Engine & Airplane Corp.. 88
Sturtevant Mill Co. 81
Sun Oil Co. 7
Sundstrand-American Broach Div. of Sundstrand Machine Tool Co. 93
Sutton Mfg. Corp. 24
Swift Glass Div., Swift Lubricator Co., Inc. 81
Synchro Corp. 5
Synthane Corp. 33

T

Templeton, Kenly & Co. 54
Tennant, G. H., Co. 70
Thomson Industries, Inc. ..53, 55
Tolerton Co. 45
Tomkins-Johnson Co. 98
Towmotor Corp. 26
Tranter Mfg., Inc., Platecoil Div. 40

Advertisers Index—Continued

Trent, Inc. 18
Trerice, H. O., Co. 105
Tropical Paint Co. 58
Troy Blanket Mills, Industrial Products Div. 70
Turco Products, Inc. 33
Twentieth Century Plastics, Inc. 48
Twin Disc Clutch Co. 73

U

Union Metal Mfg. Co. ...56, 57
Union Steel Products Co. ... 37
Unisorb Div. of The Felters Co. 43
United Electric Controls Co. 52
United Shoe Machinery Corp., Boxmaster 104
United Shoe Machinery Corp., Shelton Div. 2
U. S. Electrical Motors, Inc. 96
U. S. Flexible Tubing Co. .. 58
U. S. Graphite Co. 105
U. S. Stoneware Co. 41
Up-Right Scaffolds 37
Utica Drop Forge & Tool Div., Kelsey-Hayes Co. ... 97

V

Vaco Products Co. 76
Varflex Corp. 43
Vickers Inc., Machinery Hydraulics Div. 66
Vlchek Tool Co., The 96
Von Opel, Georg, Corp. 16

W

W-K-M Division of ACF Industries Inc. 108
Wagner Electric Corp. 83
Walker-Turner Div. of Rockwell Mfg. Co. 21
Wales Strippit Inc. 41
Wallace, B. E., Products Corp. 88
Walton Co., The 18
Wasco Products, Inc. 68
Watlow Electric Mfg. Co. .. 12
Webster Instruments, Inc. .. 66
Welch Allyn, Inc. 70
Wells Mfg. Corp. 54
West Bend Equipment Corp. 15
Western Precipitation 31, 68
Whiting Corp. 36
Whitmore Mfg. Co., The ... 28
Wiegand, Edwin L., Co. ...4, 87
Wilshire Power Sweeper Co., Div. of American-Lincoln Corp. 52
Wilson, K. R., Inc. 75
Wilton Tool Mfg. Co. 92
Wire & Iron Products, Inc.. 73
Wolverine Tube Div., Calumet & Hecla, Inc. 11
Worcester Valve Co., Inc. .. 100

Y

Yarnall-Waring Co. 61

Z

Zagar, Inc. 2
Zenith Electric Co. 107
Zero-Max Co., The 63

Index to Products

A

Abrasive Products 17, 19, 23, 49, 59
Adhesives 6, 9, 42, 91, 95, 103, 109
Air Conditioning Equipment 9, 87
Alarms 8, 21
Aluminum 24, 94, 97

B

Balancing Equipment 1, 11, 62, 64, 106
Balls 22
Baskets 40
Battery Chargers 42
Bearings 20, 23, 24, 30, 36, 48, 53, 56, 57, 66, 86, 89
Bellows 79
Belting 36
Belts, Conveyor 69
Bench Tops 45
Benders 13, 44, 85
Bins & Boxes 17, 19, 43, 45, 56, 57, 62, 72, 76, 77, 78, 86, 96, 104
Bolts 51, 74, 90
Boots 79
Brakes 6, 42, 112
Brazing Equipment & Materials 94
Broaching Equipment 108
Bronze 24
Brushes, Electric 105
Brushes, Industrial 104, 107
Building Materials 80, 103
Buildings 78, 86
Bumpers, Dock 64
Burners, Oil & Gas 57, 60
Bushings 56

C

Cabinets 67, 78, 81, 104, 106, 108
Cams & Followers 86
Cans 48
Car Spotters 15, 27
Cases & Chests 64
Casters 73, 74, 98
Castings 84
Cements, Repair 25, 42, 95, 96
Ceramics 43, 101
Chain & Fittings 8, 22, 66, 81, 92
Chairs & Stools 71, 77
Chucks 2, 42, 92
Clamping Devices 40, 41, 82, 90, 92
Clamps, Lifting 25, 38, 94
Cleaners, Air 5, 9, 27, 30, 65, 75, 102
Cleaners, Drain 112
Cleaners, Vacuum ..3, 10, 80, 98
Cleaning Equipment, Blast 22, 32, 52, 60, 74
Cleaning Machines 1, 17, 18, 56, 80
Cleaning Materials 33, 51, 71, 85, 89, 98, 110, 112
Clutches 42, 73, 112
Coatings, Protective 1, 10, 61, 65, 85, 89, 92, 93, 99, 112
Collars 15
Collets 2
Compressors 9, 28, 32, 53, 60, 92
Condensation Prevention 35
Controls, Air & Hydraulic 12, 21, 23, 28, 37, 58, 59, 64, 66, 70, 72, 84, 89, 94
Controls, Edge Positions 91
Controls, Electric 1, 3, 9, 10, 13, 18, 19, 29, 33, 34, 36, 46, 50, 51, 52, 61, 63, 64, 73, 74, 86, 88, 89, 90, 91, 109
Controls Level 7
Controls, Pressure & Temperature 9, 21, 27, 37, 46, 55, 57, 60, 64, 65, 85, 94, 102, 108
Controls, Production 16, 33, 44, 85
Controls, Remote 8, 22, 58, 66, 71, 92
Conveyor Accessories 3, 6, 47, 53, 78, 79
Conveyors 5, 6, 8, 15, 50, 53, 74, 77, 90
Counting Devices 18, 97
Couplings, Flexible 12
Crane Accessories 41
Cranes 30, 41, 43, 75, 84, 88, 106
Crushers 62
Cutters, Metal 43
Cutting Equipment 19, 103
Cutting Oils 7, 8, 89, 112
Cutoff Machines 21, 34, 76, 83
Cylinders, Air & Hydraulic ..7, 39, 40, 66, 80, 85, 94, 106, 108

D

Deburring Equipment 41, 63
Dies & Accessories 2, 13, 22, 24, 41, 56, 84, 108, 110
Dispensers, Resin 34, 50, 68, 79
Dispensers, Tape 54, 79
Dockboards & Ramps 1, 26, 69, 75, 112
Door Operators 56, 103
Doors, Industrial 20, 87, 90
Draft Inducers 67
Drafting Equipment 23, 46, 58
Drilling Machines 15, 41, 65
Drills & Accessories 37, 49
Drills, Masonry 35, 82, 101
Drives, Machine 60, 104
Drives, Variable Speed 2, 59, 63, 88, 90, 104
Drying Equipment 5, 68, 96
Dust Collectors 17, 26, 32, 49, 87

E

Electronic Equipment 2, 3, 12, 22, 43, 82, 94, 96, 107, 111
Elevating Equipment 15, 49, 66, 92, 96
Engines, Industrial 1, 54
Envelopes, Transparent 48, 89
Exhausters 67
Extrusions 65, 71

F

Fabricating Equipment 90
Fans & Blowers 3, 6, 10, 13, 22, 24, 32, 39, 46, 49, 63, 84, 88, 110
Fasteners 2, 10, 14, 15, 17, 19, 24, 30, 31, 51, 53, 55, 61, 63, 65, 66, 67, 72, 74, 77, 80, 82, 83, 90, 98, 101, 102, 105, 106, 108
Faucet Repairs 107
Feeders 26, 48, 53, 86, 98, 111
Felt Products 70
Fencing 69
File Reconditioning 91
Filtering Equipment 9, 21 30, 38, 70, 74, 76, 87, 92, 103
Finishes 20 61, 72, 73, 79, 85, 109
Finishing Equipment 46
Finishing Equipment, Spray 18, 31, 46, 59, 70, 106, 111
Fire Extinguishing Equipment 78, 98
Flexible Shaft Equipment 57, 74
Floor Machines 48, 70
Flooring Materials 4, 12, 32, 33, 36, 44, 92, 103, 107, 108, 109, 112
Food Service Equipment 53
Forgings 40
Framing 12, 20, 23, 84, 103
Furnaces, Industrial 17, 18, 21, 50, 68, 98, 100, 102
Fuses 56, 57

G

Gages, Level 19, 84, 100
Gages, Precision 1, 16, 32, 54, 68, 70, 72, 76, 99, 102, 108
Gages, Pressure & Temperature.....18, 41, 97, 106
Gas Plants 94
Gearing 48
Glass Products 81, 92
Gloves, Industrial 28, 29, 61, 68, 76, 103
Grating 4, 33, 36
Grinding Equipment 3, 12, 21, 31, 32, 37, 66, 83, 87, 108
Guns, Blow 1, 96

H

Hardboard 46
Hardware 77
Head Covers 75
Heat Exchangers 5, 11, 27, 31, 40, 53, 57, 65
Heaters, Electric 4, 12, 62, 87, 99
Heaters, Electronic & Induction 35
Heating Equipment 9, 57, 72
Hoists 3, 46, 60, 82, 84, 101
Honing Equipment 26
Hoppers, Self-Dumping 74
Hose & Fittings 6, 14, 16, 22, 31, 32, 36, 40, 41, 45, 46, 49, 54, 58, 62, 86, 90, 91, 108, 109
Hydraulic Oils 7

I

Incinerators 58, 67
Indicators, Pressure & Temperature 16, 24, 37, 38
Inspection Equipment 2, 29, 68, 70, 78, 88, 90, 112
Instruments, Electric 15, 32
Insulation, Electric ..9, 10, 43, 44
Insulation, Thermal 29, 97, 99, 109

J

Jacks 3, 54
Jacks, Leveling 43
Jigs & Fixtures ..22, 36, 84, 88
Joints, Rotating 17, 75
Joints, Universal 96

K

Knives & Blades ..34, 106, 112
Knobs 62

L

LP-Gas Systems 31, 76
Labels 14, 42, 72, 104
Laboratory Equipment 5, 61
Ladders 5, 50, 105
Laminated Materials 94, 97, 99, 103
Lawnmowers 25, 94
Lighting Equipment 8, 45, 55, 90, 106
Lights, Pilot 18, 28, 77
Lockers & Shelving 71, 78, 81, 108
Lubricating Equipment & Materials 7, 8, 14, 19, 22, 26, 28, 31, 54, 85, 88, 89, 94, 100, 101, 102

M

Machine Tool Accessories 1, 15, 22, 84, 108
Machine Tools 38, 48, 96, 102, 104
Magnetic Equipment 10, 51, 63, 93, 111, 112
Magnifiers 2, 68, 82, 88
Management 87, 98
Marking Equipment 2, 8, 13, 17, 33, 34, 38, 40, 42, 52, 59, 72, 79, 85, 102, 107
Materials, Embossed 95
Materials Handling Equipment 9, 15, 17, 19, 25, 26, 36, 37, 38, 40, 43, 44, 47, 50, 56, 57, 74, 76, 81, 93, 94, 99, 105, 106
Meters, Flow ..19, 20, 21, 28, 102
Meters, Tong Test 55
Mixing Equipment 20, 28, 29, 34, 51, 70, 71, 81, 86
Mold Releases 73
Motors, Air & Hydraulic 55
Motors, Electric 5, 8, 16, 20, 33, 35, 64, 69, 83, 96, 100, 104
Mounts, Machine 14, 43, 82, 97

N

Nailing Machines 54
Nail Pullers 6
Nameplates 72, 104
Nozzles, Spray 102, 109
Nuts 15, 17, 31, 55, 63, 65, 72, 74, 80, 82, 90, 98, 105

O

Office Equipment 22, 59
Ovens, Industrial 24, 79

P

Packaging Equipment & Materials 2, 6, 10, 39, 52, 62, 70, 72, 85, 86, 90, 96, 100, 104, 105
Packings & Gaskets 35, 64
Paint Removers 35
Partitions 4, 73
Parts, Precision 55
Perforated Fiberboard, Metal & Plastics 107
Perforating Equipment 1
Photoelectric Equipment 15, 24, 60, 67, 79, 94
Photographic Equipment 94
Pins 15, 55, 63, 68, 101
Pipe & Fittings 19, 22, 61, 84, 93, 98
Pipe & Thread Compounds 99, 108
Pipe Tools & Machines 38
Plastics 33, 63, 68, 71, 92, 93, 94, 95, 96, 104, 106, 108, 109
Plating Equipment 61, 91, 96
Plugs & Caps 83
Plugs, Tube 30
Powders, Metal 5
Power Units, Hydraulic 33
Press Brakes 13
Presses 13, 16, 30, 43, 52, 63, 72, 75
Process Equipment 34
Production Facilities 77
Pullers 3, 46, 60, 101
Pulleys & Sheaves 2, 59
Pumps 11, 21, 23, 29, 35, 45, 48, 52, 54, 64, 76
Pumps, Air & Vacuum 28, 55, 60, 92, 100
Pumps, Chemical 27, 31, 63, 72, 106
Punches 2, 13, 41
Pyrometers 82

Q

Quenching Oils 7, 89

R

Racks 12, 20, 23, 25, 39, 67, 80, 84, 103, 104
Recorders 10
Reels, Cord 54, 109
Reels, Stock 41, 98, 106
Refrigeration Equipment ..71, 90
Relays 18, 86, 88, 89, 91
Reproduction Equipment & Materials 49, 51, 56, 58, 80, 97
Respirators 8, 24
Riveting Equipment 2, 63, 66
Rollers 96, 100
Roofing Materials 58, 101
Rope 42, 106
Rubber Products 35, 70, 102
Rust Preventives 20, 79, 89, 112

S

Safety Equipment 4, 5, 6, 7, 12, 14, 15, 19, 21, 27, 30, 33, 35, 36, 44, 66, 79, 97, 105, 106, 108
Saw Blades 4, 51
Saws, Metal & Wood 4, 10, 20, 38, 54, 78, 92
Scaffolding 37
Scales 40, 42, 44, 49, 81, 83, 98
Screwdrivers 58, 63, 76
Screwdrivers, Power 57, 84
Screws ..10, 14, 74, 89, 90, 105
Seals & Sealants 30, 35, 73, 77, 93, 99, 108
Sharpeners, Saw 101
Shears 6, 7, 8, 47, 55
Shims 64
Shop Equipment 78, 81, 108
Signals 45
Silicones 73
Skylights 68
Sleeves 79
Slings & Fittings 8, 22, 81, 91, 101
Slitters & Rewinders 44
Snubbers, Exhaust 60, 104
Soldering Equipment & Materials 4, 102, 112
Spacers 26
Speed Reducers 16, 33, 42, 50, 52, 78, 83, 88, 100, 104
Spray Equipment 102, 109
Springs ..9, 23, 41, 69, 94, 100
Sprockets 41, 81
Stampings 9, 107
Stapling Equipment 19, 23
Static Eliminators 14
Steel 55, 102, 105
Steel, Stainless 39, 65
Straighteners 37, 98
Strainers 53
Strapping, Steel 39, 75, 90, 103
Strippers 35
Strippers, Wire 34, 97
Sweepers 10
Sweepers, Power 52, 88

T

Tables 14
Tables, Indexing 69, 86
Tachometers 24, 75, 104
Tackers 23
Tanks 27, 32
Tanks, Compound Melting 17, 65
Tape, Industrial 29, 62, 79
Tapping Attachments & Equipment 18, 58, 65
Testing Equipment 16, 18, 32, 37, 45, 56, 66, 73, 76, 77, 81, 83, 85, 91, 98, 111
Thermometers 32, 51, 56, 68, 105
Timing Devices 18, 22, 23, 47, 58, 91, 107, 112
Tires, Industrial 25, 27
Tools, Cleaning 3
Tools, Cutting 6, 7, 96, 98, 102
Tools, Hand 20, 26, 29, 30, 36, 76, 83, 96
Tools, Pneumatic 34, 37 102
Tools, Portable Electric 20, 38, 61, 80, 90, 92, 102, 112
Tractors, Industrial 8, 94
Traps, Air & Steam 10, 25
Trolleys 71
Trucks, Hand 18, 19, 47, 58
Trucks, Industrial Power ... 25, 26, 47, 82, 93, 96, 99, 104
Tubing & Fittings 6, 9, 11, 41, 57, 74, 83, 90, 100, 101, 104, 109

U

Ultrasonic Equipment 18, 45, 52, 60

V

Valve Operators 30
Valves 5, 11, 17, 34, 37, 42, 43, 48, 50, 57, 61, 64, 72, 73, 76, 77, 84, 88, 92, 100, 101, 102, 105, 108
Ventilating Equipment 19, 65, 84, 85, 110
Vibration Absorbers 14, 43, 82, 97
Vibrators 5, 36, 47, 62, 69
Vises 55, 75

W

Washers 25, 50, 61, 64
Water Coolers 12
Water Heaters 47
Water Treatment 87
Way Protectors 79
Welding Equipment 27, 47, 58, 60, 65, 90, 98, 100
Wheels, Industrial 6, 53, 59, 67, 98
Winches 101
Winding Equipment 21, 91
Wire 69, 78
Wire, Electric .. 84, 92, 94, 108
Wire Rope & Fittings 12, 69, 87, 91, 93, 100
Wire Specialties 59, 80
Wiring Devices 2, 9, 10, 16, 39, 47, 67, 70, 71, 74, 75, 83, 109
Workbenches & Tops ..5, 45, 86
Wrenches 26, 34, 36, 58, 77

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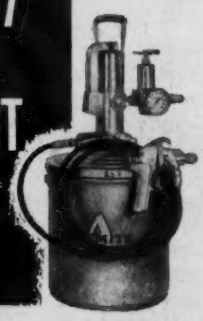

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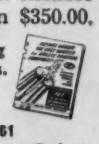

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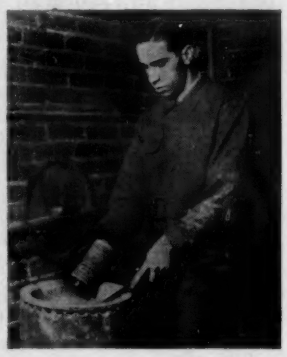

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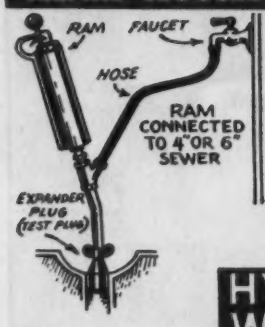

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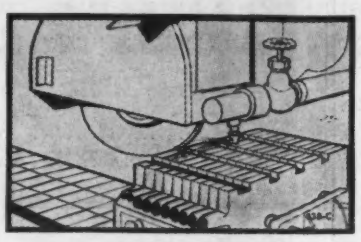
NEW MATERIALS AND PROCESSES

RUST PREVENTIVE COOLANT for use with ferrous metals



Used where cleanliness and rust prevention take precedence over high lubrication, No. 438-C coolant is transparent to permit observation of work in process. It affords good rust inhibiting properties for machining and grinding of ferrous metals. An aqueous solution of anionic and nonionic surface active agents, it also contains alylesters and ethylene oxide condensation products. It will not turn rancid. • **Baker/Gubbins Co.**, 1448 Wabash Ave., Detroit 16, Mich.

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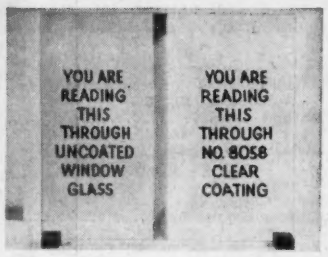

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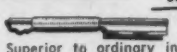

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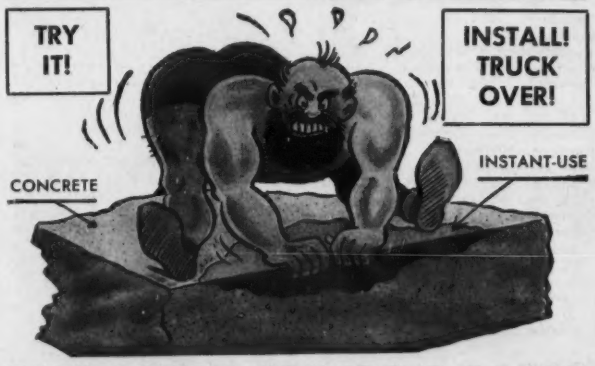

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